

CITY COUNCIL AGENDA ITEM COVER MEMO

Agenda Item Number _____

Meeting Type: Regular

Meeting Date: 5/24/2012

Action Requested By:
Engineering

Agenda Item Type
Resolution

Subject Matter:

Agreement with Brown and Caldwell

Exact Wording for the Agenda:

Resolution authorizing the Mayor to enter into an agreement with Brown and Caldwell for Engineering Hydrologic and Hydraulic Modeling Services and Letter of Map Revision (LOMR) Submittal for a Portion of Beaverdam Creek 2 and Its Tributaries, Project No. 65-12-DR06

Note: If amendment, please state title and number of the original

Item to be considered for: Action

Unanimous Consent Required: No

Briefly state why the action is required; why it is recommended; what Council action will provide, allow and accomplish and; any other information that might be helpful.

Hydrologic and hydraulic modeling services in support of a Letter of Map Revision (LOMR) Application/Request Package for a significant portion of Beaverdam Creek 2 and its tributaries. Engineering services in a Not to Exceed (NTE) Ceiling Price of \$89,391.00. Account No. 23-6500-0816-8206

Associated Cost:

Budgeted Item: Select...

MAYOR RECOMMENDS OR CONCURS: Select...

Department Head: 

Date: 5/4/12

revised 3/12/2012

ROUTING SLIP CONTRACTS AND AGREEMENTS

Originating Department: **Engineering**

Council Meeting Date: **5/24/2012**

Department Contact: **Lynn Majors**

Phone # **256-427-5201**

Contract or Agreement: **LOMR Application/Request Package**

Document Name: **Brown & Caldwell-Beaverdam Creek 2 Project No. 65-12-DR06**

City Obligation Amount: **\$89,391.00**

Total Project Budget: **\$89,391.00**

Uncommitted Account Balance: **0**

Account Number: **23-6500-0816-8206**

Procurement Agreements


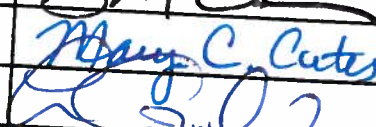

Not Applicable

Not Applicable

Grant-Funded Agreements

Not Applicable

Grant Name:

Department	Signature	Date
1) Originating		5/4/12
2) Legal		5/8/12
3) Finance		5/9/12
4) Originating		
5) Copy Distribution		
a. Mayor's office (1 copies)		
b. Clerk-Treasurer (Original & 2 copies)		

RESOLUTION NO. 12-

BE IT RESOLVED by the City Council of the City of Huntsville, Alabama, that the Mayor be, and is hereby authorized, to enter into an agreement with Brown and Caldwell in the amount of EIGHTY-NINE THOUSAND THREE HUNDRED NINETY-ONE AND NO/100 DOLLARS (\$89,391.00) for Engineering Hydrologic and Hydraulic Modeling Services and Letter of Map Revision (LOMR) Submittal for a Portion of Beaverdam Creek 2 and Its Tributaries, Project No. 65-12-DR06, in Huntsville, Alabama, on behalf of the City of Huntsville, a municipal corporation in the State of Alabama, which said agreement is substantially in words and figures similar to that document attached hereto and identified as "Agreement between City of Huntsville and Brown and Caldwell for Engineering Hydrologic and Hydraulic Modeling Services and Letter of Map Revision (LOMR) Submittal for a Portion of Beaverdam Creek 2 and Its Tributaries, Project No. 65-12-DR06" consisting of a total of nineteen (19) pages plus forty-eight (48) additional pages consisting of Attachments 1-16, and the date of May 24, 2012 appearing on the margin of the first page, together with the signature of the President or President Pro Tem of the City Council, and an executed copy of said document being permanently kept on file in the Office of the City Clerk of the City of Huntsville, Alabama.

ADOPTED this the 24th day of May, 2012.

President of the City Council of
the City of Huntsville, Alabama

APPROVED this the 24th day of May, 2012.

Mayor of the City of Huntsville,
Alabama

**AGREEMENT BETWEEN
CITY OF HUNTSVILLE, ALABAMA**

AND

BROWN AND CALDWELL

FOR

**ENGINEERING HYDROLOGIC AND HYDRAULIC MODELING
SERVICES AND LETTER OF MAP REVISION (LOMR) SUBMITTAL
FOR PORTION OF BEAVERDAM CREEK 2 AND ITS
TRIBUTARIES**

**Project I.D Number 65-12-DR06
May 24, 2012**

**President of the City Council of the City of
Huntsville, AL
Date: May 24, 2012**

TABLE OF CONTENTS

ARTICLE 1 - ENGAGEMENT OF THE ENGINEER.....	
ARTICLE 2 - DESIGN SERVICES OF THE ENGINEER.....	
ARTICLE 3 - OMITTED.....	
ARTICLE 4 - ADDITIONAL SERVICES.....	
ARTICLE 5 - RESPONSIBILITIES OF OWNER.....	
ARTICLE 6 - PERIOD OF SERVICES.....	
ARTICLE 7 - PAYMENT TO THE ENGINEER.....	
ARTICLE 8 - GENERAL PAYMENT PROCEDURE.....	
ARTICLE 9 - GENERAL CONSIDERATIONS.....	
ARTICLE 10 - INDEMNITY AND INSURANCE.....	
ARTICLE 11 - MISCELLANEOUS PROVISIONS.....	
ATTACHMENT 1 - SCOPE OF SERVICES.....	
ATTACHMENT 2 - ALABAMA IMMIGRATION ACT-REPORT OF OWNERSHIP FORM	
ATTACHMENT 3 - E-VERIFY AFFIDAVITS	
ATTACHMENT 4 - CITY OF HUNTSVILLE STANDARDS AND DESIGN GUIDES.	
ATTACHMENT 5 - DESIGN REVIEWS.....	
ATTACHMENT 6 - ENGINEERS PERSONNEL FEE SCHEDULE.....	
ATTACHMENT 7 - PROGRESS REPORT.....	
ATTACHMENT 8 - SUB-CONSULTANTS ENGAGED BY THE ENGINEER.....	
ATTACHMENT 9 - CONTRACT DOCUMENT REQUIREMENTS LIST.....	
ATTACHMENT 10 - REQUIREMENTS FOR DOCUMENT SUBMITTALS.....	
ATTACHMENT 11 -UTILITY PROJECT NOTIFICATION FORM.....	
ATTACHMENT 12 - SAMPLE STANDARD DRAWING FORMAT.....	
ATTACHMENT 13 - ROW SUBMITTAL.....	
ATTACHMENT 14 - U.S. NATIONAL MAP ACCURACY STANDARDS.....	
ATTACHMENT 15 - REAL ESTATE PLAN REQUIREMENTS.....	
ATTACHMENT 16 - GIS BASE MAP.....	

**AGREEMENT BETWEEN
CITY OF HUNTSVILLE, ALABAMA
AND
BROWN AND CALDWELL
FOR
ENGINEERING HYDROLOGIC AND HYDRAULIC MODELING
SERVICES AND LETTER OF MAP REVISION (LOMR) SUBMITTAL
FOR A PORTION OF BEAVERDAM CREEK 2 AND ITS
TRIBUTARIES
Project I.D Number 65-12-DR06**

THIS AGREEMENT made as of the 24th day of May in the year 2012, by and between the CITY OF HUNTSVILLE, ALABAMA (hereinafter called OWNER), and BROWN AND CALDWELL (hereinafter called ENGINEER).

WITNESSETH, for the considerations hereinafter set forth, the parties hereto agree as follows:

ARTICLE 1 - ENGAGEMENT OF THE ENGINEER

The OWNER hereby engages the ENGINEER, and the ENGINEER hereby accepts the engagement to provide general engineering and consultation as a representative of the OWNER to include the following:

- 1.1 Professional engineering hydrologic and hydraulic modeling services and Letter of Map Revision (LOMR) submittal for a Portion of Beaverdam Creek 2 and Its Tributaries as further described in ARTICLE 2, and hereinafter called PROJECT.
- 1.2 By executing this Agreement, the ENGINEER represents to the OWNER that the ENGINEER is a professional qualified to act as the ENGINEER for the PROJECT and is licensed and certified to practice engineering by all public entities having jurisdiction over the ENGINEER and the PROJECT. The ENGINEER further represents to the OWNER that the ENGINEER will maintain all necessary licenses, certifications, permits or other authorizations necessary to act as ENGINEER for the PROJECT until the ENGINEER's remaining duties hereunder have been satisfied. The ENGINEER shall assign only qualified personnel to perform any service concerning the PROJECT. All services rendered by the ENGINEER for the PROJECT shall be performed by or under the immediate supervision of experienced and qualified professionals licensed, certified, and registered as appropriate in the State of Alabama possessing the expertise in the discipline of the service being rendered. The ENGINEER assumes full responsibility to the OWNER for the negligent acts, errors and omissions of its consultants or others employed or retained by the ENGINEER in connection with the PROJECT.
- 1.3 Execution of this Agreement by the ENGINEER constitutes a representation that the ENGINEER has become familiar with the PROJECT site and the local conditions under which the PROJECT is to be implemented. The ENGINEER agrees to provide all necessary engineering services required to professionally accomplish the ENGINEER's defined scope of services.

ARTICLE 2 – DESIGN SERVICES OF THE ENGINEER

- 2.1** ENGINEER shall provide for OWNER professional engineering hydrologic and hydraulic modeling services and Letter of Map Revision (LOMR) submittal for a Portion of Beaverdam Creek 2 and Its Tributaries.
- 2.2** These services shall include consultation and advice; customary civil, structural, mechanical and electrical engineering design services; and Architectural services incidental thereto, as outlined herein and further described in the SCOPE OF SERVICES, ATTACHMENT 1.
- 2.3** Upon the OWNERS authorization, the ENGINEER shall prepare construction documents ~~consisting of drawings and specifications setting forth in detail the requirements for~~ construction of the PROJECT. The ENGINEER warrants that such construction documents are accurate, coordinated and adequate for the construction and in conformity and comply with applicable laws, codes and regulations. Products specified for use shall be readily available unless written authorization to the contrary is given by the OWNER. Products or materials specified by the ENGINEER that are available from only one source shall be justified in writing by the ENGINEER in order to meet applicable federal, state, or local procurement or bid requirements.
- 2.4** The ENGINEER shall prepare appropriate bid alternates as necessary in order to assure that the PROJECT can be awarded within the PROJECT budget limitations.
- 2.5** The ENGINEER shall serve as the OWNER's professional representative in those portions of the PROJECT to which this Agreement applies and shall consult with and advise the OWNER during the performance of these services.
- 2.6** The ENGINEER shall incorporate into its design, and into its final work products, the requirements contained within the OWNER's engineering standards, standard specifications, and design manuals referenced in ATTACHMENT 4. The requirements of the State of Alabama Department of Transportation design standards shall be reviewed for applicability and incorporated into portions of the work where joint participation between the OWNER and the State is applicable. When conflicts are noted between the OWNERS requirements and standards of others, the OWNERS standards shall take precedent. Discrepancies shall be brought to the attention of the OWNER. Deviations from OWNER's requirements shall be identified to the OWNER by the ENGINEER in writing prior to incorporating the changes.
- 2.7** The ENGINEER shall obtain all Planning Commission approvals with regard to location, character and extent, as required.
- 2.8** The ENGINEER shall obtain a Utility Project Notification Form (Attachment 11) from all affected utilities on the project by the 60% design review stage. Acceptance shall be provided as a signed original by all affected parties at the 90% design review stage.
- 2.9** The ENGINEER shall promptly correct, or have corrected, any errors, omissions, deficiencies or conflicts in the ENGINEER's work product or that of his sub-contractors/sub-consultants, without additional compensation for time, reproduction or distribution.
- 2.10** During the process of design and preparation of the construction documents, the ENGINEER shall review with the OWNER the construction documents, the estimate of probable construction cost, schedule, and other design services issues. Such review shall be, at a minimum, as outlined in ATTACHMENT 5 as 0%, 30%, 60%, and 90% completion stage.

Following such reviews, the ENGINEER shall make any appropriate revisions thereto to assure compliance with the OWNER's requirements.

- 2.11** Field surveying work is required and shall be performed in accordance with "Standards of Practice for Surveying in the State of Alabama" as required by the Alabama Board of Registration for Engineering and Land Surveyors. Surveying shall include P.K. Nails or other permanent stationing markings as well as staking of right-of-way, easements and parcels of land acquired by the City of Huntsville. Property corners shall be set at the new right-of-way. Easements shall be staked as requested by the City of Huntsville. The above field work shall be performed as a minimum as needed at the time of right-of-way acquisition and one additional time near the 100% submittal stage as determined by the OWNER. The cost for these services is included in the fees for Basic Services.

Survey data shall be based on a US Public Land Survey System corner or quarter corner. Said corner or quarter corner shall be field verified by the surveyor and a state plane coordinate provided in deliverables submitted to the City of Huntsville. All survey work shall be based on the following datum's:

Coordinate System:	US State Plane
Zone:	Alabama East 0101
Vertical Datum:	The North American Vertical Datum of 1988 (NAVD 88)
Horizontal Datum:	The North American Datum of 1983 (NAD 83)
Geoid Model:	Geoid03
Units:	US Survey Feet

- 2.12** The ENGINEER shall comply with the City of Huntsville Tree Ordinance and carry the requirements referenced therein with deliverables (drawings, specifications, etc.) in accordance with Section 27-57 of the City of Huntsville Code of Ordinances (Ord. No. 04-45, §13, 2-12-2004).
- 2.13** The ENGINEER shall prepare the prebid agenda after obtaining comments from stakeholders such as affected utilities, City of Huntsville Construction Project Engineer and Inspector(s), and other City of Huntsville departments as applicable. The ENGINEER shall moderate the prebid meeting, prepare meeting minutes, make clarifications, prepare addendums, and distribute to bidders.
- 2.14** A valid City of Huntsville license shall be maintained throughout the term of this contract. Additionally, the engineering firm shall be required to obtain and pay for all other federal, state or local permits, licenses, and fees which may be necessary or required in order to perform the work detailed herein.

ARTICLE 3 - CONSTRUCTION ADMINISTRATION SERVICES **OMITTED**

ARTICLE 4 - ADDITIONAL SERVICES

The following services of the ENGINEER are not included in Article 2. Nevertheless, the ENGINEER shall provide such services if authorized in writing by the OWNER, and they shall be paid for by the OWNER as provided in Article 7.

- 4.1** Making revision in drawings, specifications or other documents when such revisions are inconsistent with written direction by the OWNER previously given, are required by the enactment of revision of codes, laws or regulations subsequent to the preparation of such

documents and not reasonably anticipated, or are due to other causes not within the control or responsibility of the ENGINEER, either in whole or in part.

- 4.2 Preparing drawings, specifications and supporting data in connection with change orders, provided that such change orders are issued by the OWNER due to causes not within the control or responsibility of the ENGINEER, either in whole or in part.
- 4.3 Providing additional services for repair or replacement of work damaged by acts of God or other cause during construction provided that such services are required by causes not the responsibility of the ENGINEER, either in whole or in part.
- 4.4 Providing services not otherwise required herein which are made necessary solely by the default of the ENGINEER or major defects or deficiencies in the work of the ENGINEER.
- 4.5 Providing expert witness services and other services arising out of claims.
- 4.6 Provide services to stake site during construction.

ARTICLE 5 - RESPONSIBILITIES OF OWNER

The OWNER, without cost to the ENGINEER, will perform the following in a timely manner so as not to delay the services of the ENGINEER:

- 5.1 Assist ENGINEER by placing at ENGINEER's disposal all available information pertinent to the PROJECT including previous reports and any other data relative to design or construction of the PROJECT.
- 5.2 Provide all criteria and full information as to OWNER's requirements for the PROJECT, including design objectives and constraints, space, capacity and performance requirements, flexibility and expendability, and any budgetary limitations. The OWNER shall also furnish copies of all design and construction standards, which OWNER will require to be included in the drawings and specifications.
- 5.3 Assist the ENGINEER as necessary in acquiring access to and making all provisions for the ENGINEER to enter upon public and private lands as required for the ENGINEER to perform the work under this agreement.
- 5.4 Designate in writing a person to act as the OWNER's representative with respect to the work to be performed under this Agreement, such person to have complete authority to transmit instructions, receive information, interpret and define the OWNER's policies and decision with respect to materials, equipment elements and systems pertinent to the work covered by this Agreement. Examine all studies, reports, sketches, drawings, specifications, proposals and other documents presented by ENGINEER, obtain advice of an attorney, insurance counselor and other consultants as OWNER determines appropriate for such examination and render in writing decisions pertaining thereto within a reasonable time so as not to delay the services of ENGINEER.
- 5.5 The OWNER will intercede on the ENGINEER's behalf when data from, or reviewed by third parties is not on schedule through no fault of the ENGINEER
- 5.6 The OWNER's review of any documents prepared by the ENGINEER or its consultants shall be solely for the purpose of determining whether such documents are generally consistent with the OWNER's intent. No review of such documents shall relieve the ENGINEER of its responsibility for the accuracy, adequacy, fitness, suitability and coordination of its work product.

ARTICLE 6 - PERIOD OF SERVICES

- 6.1** The ENGINEER shall commence services pursuant to this agreement as of May 25, 2012. The final completion date for the completion of design services as outlined in Article 2 shall be December 31, 2013.

The ENGINEER shall perform these services with reasonable diligence and expediency consistent with sound professional practices. The ENGINEER shall include in his schedule an allowance for time required for OWNER's review of submissions and for approvals of authorities having jurisdiction over the PROJECT. When approved by the OWNER, the schedule shall not be exceeded by the ENGINEER, except for cause.

If the ENGINEER becomes aware of delays due to time allowances for review and approval being exceeded, delay by the OWNER, the OWNER's consultants, or any other reason beyond the ENGINEER's control, which may result in the schedule of performance of the ENGINEER's services not being met, the ENGINEER shall promptly notify the OWNER. If the OWNER becomes aware of any delays or other causes that will affect the ENGINEER's schedule, the OWNER shall promptly notify the ENGINEER. In either event, the ENGINEER's schedule for performance of its services shall be equitably adjusted.

ARTICLE 7 - PAYMENT TO THE ENGINEER

7.1 BASIC SERVICES

The OWNER shall compensate the ENGINEER for services rendered pursuant to this Agreement, excepting those services described as Additional Services in Article 4 of this Agreement, by payment of the NOT TO EXCEED CEILING PRICE OF EIGHTY-NINE THOUSAND THREE HUNDRED NINETY-ONE AND NO/100 DOLLARS (\$89,391.00) for design services as described in Article 2. Additional services of the ENGINEER as described in Article 4, if any, shall be compensated on an hourly basis in accordance with Attachment 6.

7.2 REIMBURSABLE EXPENSES

The scope of work for sub-contracted services is defined in the ENGINEER's scope of services, Attachment 1. The scope includes provisions for administration expenses for subcontracted services and reimbursable direct expenses including but not limited to laboratory tests and analyses; computer services; word processing services; permit fees, bonds, telephone, printing, binding and reproduction charges; and other similar costs. Indirect costs will have administrative fee reimbursements limited to no more than 5%. Direct costs are also limited to no more than 5% reimbursement.

Reimbursable expenses shall be limited during the term of this agreement as stated in Art. 7.1 Basic Services.

7.3 NOT TO EXCEED (NTE) CEILING

NTE Ceiling price. The City of Huntsville (COH) will not be obligated to pay the ENGINEER any amount in excess of the NTE ceiling price as per Attachment "1", and the ENGINEER shall not be obligated to continue performance if to do so would exceed the NTE ceiling price set forth in the referenced attachment, unless and until the COH notifies the ENGINEER in writing that the NTE ceiling price has been increased and specifies in the notice a revised

NTE ceiling that shall constitute the NTE ceiling price for performance under this contract. NTE ceiling price increase will be done by a written unilateral change order to the contract issued by the OWNER that will not require the ENGINEER's approval. When and to the extent that the NTE ceiling price set forth in the referenced attachment has been increased, any hours expended and material costs incurred by the ENGINEER in excess of the NTE ceiling price before the increase shall be allowable to the same extent as if the hours expended and material costs had been incurred after the increase in the NTE ceiling price.

7.4 EFFECTIVE DATE

This contract shall have no force or effect unless and until it is executed by the OWNER and the ENGINEER and a properly executed copy is mailed to the ENGINEER with a notice to proceed (NTP). If a NTP is not issued within sixty (60) days commencing from the last date of execution of this CONTRACT by the OWNER and the ENGINEER, then this CONTRACT shall be NULL AND VOID, the OWNER will not be obligated to any payment to the ENGINEER and the ENGINEER will not be obligated to perform any work under said CONTRACT.

PAYMENT SUMMARY

Engineering Hydrologic and Hydraulic Modeling Services Not to Exceed Ceiling Price of –	\$89,391.00
--	-------------

TOTAL CONTRACT AMOUNT:	<u>\$89,391.00</u>
-------------------------------	---------------------------

ARTICLE 8 - GENERAL PAYMENT PROCEDURE

8.1 INVOICES

- 8.1.1** The ENGINEER shall submit monthly invoices to the Administrative Officer in the Engineering Department, for the basic services described under Articles 2 and 4 for the design of the PROJECT. Invoices must include the City of Huntsville project name and number, dates of services, contract amount, previous billings and current billing. Along with each invoice, the ENGINEER must submit a consultant progress report known as Attachment 7. No payment will be made without the consultant progress report completed and attached. Monthly progress reports shall be submitted monthly even if no request for payment is made. If services under Article 4 are included in the invoice for additional services not included under the lump sum provisions, or services billed as time and material, the classification and hours of such persons rendering the services shall be attached to the invoice.
- 8.1.2** The signature of the ENGINEER on the invoice shall constitute the ENGINEER's representation to the OWNER that the services indicated in the invoice have progressed to the level indicated, have been properly and timely performed as required herein, that the reimbursable expenses included in the invoice have been reasonably incurred, that all obligations of the ENGINEER covered by prior invoices have been paid in full, and that, to the best of the ENGINEER's knowledge, information and informed belief, the amount requested is currently due and owing, there being no reason known to the ENGINEER the payment of any portion thereof should be withheld. Submission of the ENGINEER's invoice for final payment and reimbursement shall further constitute the ENGINEER's representation to the OWNER that, upon receipt from the OWNER of the amount invoiced, all obligations of the ENGINEER to others, including its consultants, incurred in connection with the

PROJECT, have been paid in full. ENGINEER must designate on Attachment 7 – Progress Report in the appropriate space provided that such action has been completed.

8.2 TIME FOR PAYMENT

The OWNER shall make payment for services in Articles 2 and 4 within 60 days of receipt of valid invoice.

8.3 OWNER'S RIGHT TO WITHHOLD PAYMENT

In the event the OWNER becomes credibly informed that any representations of the ENGINEER, provided pursuant to Article 8.1.2, are wholly or partially inaccurate, the OWNER may withhold payment of sums then or in the future otherwise due to the ENGINEER until the inaccuracy, and the cause thereof, is corrected to the OWNER's reasonable satisfaction. Additionally, failure by the ENGINEER to supply substantiating records shall be reason to exclude related costs from the amounts which might otherwise be payable by the OWNER to the ENGINEER.

8.4 REIMBURSABLE EXPENSES

8.4.1 In addition to the requirements set forth in 8.1 above, invoices for reimbursable expenses shall include such documentation as the OWNER may require. Reasonable expenses are limited to the following expenses:

- (a) Transportation outside the immediate Huntsville area (50 mile radius) approved in advance by the OWNER in writing and incurred in connection with the PROJECT; (Per Department of Treasury, Internal Revenue Service Publication 1542, Per Diem Rates, for travel within the continental United States). Refer to website: www.irs.gov/pub/irs-pdf/p1542.pdf for more information.
- (b) Charges for long-distance communications;
- (c) Fees paid for securing approval of authorities having jurisdiction over the PROJECT,
- (d) Actual costs of reproduction for items in excess of those included in the required services;
- (e) Postage and handling charges incurred for drawings, specifications and other documents.

8.4.2 The ENGINEER shall set forth with particularity on its invoice the nature and cost of the expense item being billed, and attach to its invoice the written authorization, if any, required for such item; and shall bill expenses at actual cost or prevailing rate and without the addition of administrative charge, any multiple or surcharge.

8.5 W-9 TAXPAYER FORM

All ENGINEERING FIRMS are required to submit a Federal Tax Form W-9 to City of Huntsville at the time a contract is awarded. No payments of invoices can be made until this W-9 Tax Form has been properly submitted. A copy of the W-9 Tax Form can be requested from the OWNER or at the following website: www.irs.ustreas.gov/pub/irs-pdf/fw9.pdf

ARTICLE 9 - GENERAL CONSIDERATIONS

9.1 GENERAL

OWNER and ENGINEER agree that the following sections and provisions shall apply to the work to be performed under this Agreement and that such provisions shall supersede any conflicting provisions of this Agreement.

9.2 SUB-CONTRACTED SPECIALIZED SERVICES

The ENGINEER may sub-contract specialized services required of the PROJECT to competent and experienced sub-consultants approved by the OWNER in writing. As a prime professional, the ENGINEER shall act as OWNER's representative for contracting, directing, and managing the services of sub-consultants. The OWNER shall have the right to reject any consultant provided that the OWNER raises a timely objection. At the time of the execution of this Agreement, the parties anticipate that the consultants listed in Attachment "8" hereto will be retained by the ENGINEER to provide services with respect to the PROJECT. Expenses payable to the ENGINEER for subcontracted services are limited to no more than 5% of the cost of the subcontracted services.

9.3 PEER REVIEW

The OWNER reserves the right to conduct, at the OWNER's expense, peer review of designs and drawings prepared by the ENGINEER and/or sub-consultant(s) for the PROJECT. The ENGINEER and sub-consultant(s) agree that knowledge and consent to review of their work by other engineers of the OWNER's choosing is hereby given in accordance with the ADMINISTRATIVE CODE (RULES AND REGULATIONS) of the Alabama State Board of Licensure for Professional Engineers and Land Surveyors, Chapter 330-X-14-.06(a) (13) effective January 2008 and as may be amended now or in the future pertaining to the Code of Ethics for review of the work of another engineer.

9.4 CLARIFICATION OF WORK

If reviewing agencies raise questions regarding the work of ENGINEER, OWNER will participate in such meetings as deemed necessary to explain and clarify this work.

9.5 CANCELLATION OF WORK

This Agreement may be canceled by either party in the event of default or violation of any of the provisions of this Agreement by the other party, by written notice delivered to the address of record by registered mail giving ten (10) days advance notice of the intention to cancel. In the event of cancellation of this Agreement, ENGINEER shall be paid for all work performed to date of cancellation, less any loss, damage, or liability incurred by reason of default of ENGINEER and all records, data, parameters, design calculations and other information collected or obtained in the performance of this Agreement shall be delivered to OWNER.

9.6 CHANGES

9.6.1 The OWNER may, at any time by written order, make changes within the general scope of the Agreement in the services to be provided. If such changes cause an increase or decrease in ENGINEER's cost of, or time required for performance of any services, whether or not changed by any order, an equitable adjustment shall be made and the Agreement shall be modified in writing accordingly. Upon notification of change, ENGINEER must assert any claim of ENGINEER for adjustment in

writing within 30 days from the date of receipt unless OWNER grants a further period of time.

- 9.6.2** If findings in any phase of this PROJECT significantly alter the scope of work for subsequent phases, or if regulations are changed resulting in a scope of work change for any phase, engineering fees set forth in Article 7 may be renegotiated by the OWNER and ENGINEER.

9.7 ENGINEER'S RECORDS

Documentation accurately reflecting services performed and the time expended by the ENGINEER and his personnel and records of reimbursable expenses shall be prepared concurrently with the performance of the services and shall be maintained by the ENGINEER. The ENGINEER shall maintain record copies of all written communications, and any memoranda of verbal communications related to the PROJECT. All such records and documentation shall be maintained for a minimum of five (5) years after the PROJECT date of final completion or for any longer period of time as may be required by law or good practice. If the ENGINEER receives notification of a dispute or of pending or commencement of litigation during this five-year period, the ENGINEER shall continue to maintain all PROJECT records until final resolution of the dispute or litigation. The ENGINEER shall make such records and documentation available to the OWNER upon notice and shall allow the authorized representative(s) of the OWNER to inspect, examine, review and copy the ENGINEER's records at the OWNER's reasonable expense.

9.8 USE AND OWNERSHIP OF DOCUMENTS

All rights of ownership, copyrights, construction documents, including all drawings, specifications and other documents, electronic media, computer source code, or things prepared by or on behalf of the ENGINEER for the PROJECT are hereby transferred to the OWNER and shall be the sole property of the OWNER and are free of any retention rights of the ENGINEER. The ENGINEER hereby grants to the OWNER an unconditional right to use or to refer to, for any purpose whatsoever, the construction documents and any other documents or electronic media, computer source code prepared by or on behalf of the ENGINEER for the PROJECT, free of any copyright claims, trade secrets or other proprietary rights with respect to such documents. The ENGINEER shall be permitted to retain copies thereof for its records. The ENGINEER's documents and other work products are not intended or represented to be suitable for re-use by OWNER or others on extensions of the PROJECT or on any other PROJECT. Any re-use without specific written verification or adaptation by ENGINEER will be at OWNER's sole risk and without liability or legal exposure to ENGINEER, and OWNER shall indemnify and hold harmless ENGINEER from all claims, damages, losses and expenses including attorneys' fees arising out of, or resulting from, such reuse by the OWNER; provided however, that this agreement to indemnify and save harmless shall not apply to any reuse of documents retained by, or through, the ENGINEER.

9.9 ESTIMATE OF CONSTRUCTION COST

Since ENGINEER has no control over the construction cost of labor, materials, or equipment, or over the construction contractor(s) methods of determining prices, or over competitive bidding or market conditions, his opinion of probable PROJECT cost or construction cost provided for herein are to be made on the basis of his experience and qualifications and represent his best judgment as a design professional familiar with the construction industry; but, ENGINEER cannot and does not guarantee that proposals, bids or construction costs will not vary from opinions of probable cost prepared by him. If OWNER wishes greater assurance as to the construction cost, he will employ an independent cost estimator.

9.10 TERMINATION FOR CAUSE

This Agreement may be terminated by either party upon seven (7) days written notice to the other should such other party fail substantially to perform in accordance with its material terms through no fault of the party initiating the termination.

9.11 TERMINATION BY THE OWNER WITHOUT CAUSE

The OWNER may terminate this Agreement without cause upon seven (7) days' written notice to the ENGINEER. In the event of such a termination without cause, the ENGINEER shall be compensated for all services performed prior to termination, together with Reimbursable Expenses incurred. In such event, the ENGINEER shall promptly submit to the OWNER its invoice for final payment and reimbursement which invoice shall comply with the provisions of Paragraph 8.1.

ARTICLE 10 - INDEMNITY AND INSURANCE

10.1 INSURANCE

The ENGINEER shall carry insurance of the following kinds and amounts in addition to any other forms of insurance or bonds required under the terms of the contract specifications. The ENGINEER shall procure and maintain for the duration of the job until final acceptance by the OWNER, or as later indicated, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the ENGINEER, his agents, representatives, employees or subcontractor.

10.2 MINIMUM SCOPE OF INSURANCE:

A. General Liability:

Insurance shall be written on an occurrence basis. Claims-made coverage will be accepted only on an exception basis after the OWNER's approval. The same insurance company should write General Liability Coverage and OWNERs ENGINEERs Protective Insurance.

B. Commercial General Liability

Products and Completed Operations
Contractual
Personal Injury
Explosion, Collapse and Underground
Broad Form Property Damage

C. Professional Liability:

Insurance may be written on a "claims-made" basis, providing coverage for negligent acts, errors or omissions in the performance of professional services. Coverage shall be maintained for a discovery and reporting period of no less than five (5) years after completion of the professional services and Certificates of Insurance shall be submitted to the OWNER on a yearly basis during this time frame. Coverage shall be no less comprehensive than that which is carried by at least 25% of the registered engineers or engineering firms contracting in the State of Alabama. Such coverage shall be carried on a continuous basis including prior acts coverage to cover the

subject PROJECT. The professional liability insurance shall contain contractual liability coverage.

D. Automobile Liability:

Business Automobile Liability providing coverage for all owned, hired and non-owned autos. Coverage for loading and unloading shall be provided under either automobile liability or general liability policy forms.

E. Workers' Compensation Insurance:

Statutory protection against bodily injury, sickness or disease or death sustained by employee in the scope of employment. Protection shall be provided by a commercial insurance company or a recognized self-insurance fund authorized before the State of Alabama Industrial Board of Relations. "Waivers of Subrogation" in favor of the OWNER shall be endorsed to Workers' Compensation Insurance.

F. Employers Liability Insurance:

Covering common law claims of injured employees made in lieu of or in addition to a worker's compensation claim.

10.3 MINIMUM LIMITS OF INSURANCE:

A. General Liability:

Commercial General Liability on an "occurrence form" for bodily injury and property damage:

\$ 2,000,000 General Aggregate Limit
\$ 2,000,000 Products - Completed Operations Aggregate
\$ 1,000,000 Personal & Advertising Injury
\$ 1,000,000 Each Occurrence

B. Professional Liability:

Insurance may be made on a "claims-made" basis:

\$ 500,000 Per Claim - Land Surveyors
\$ 1,000,000 Per Claim - Other Professionals

C. Automobile Liability:

\$ 1,000,000 Combined Single Limit per accident for bodily injury and property damage.

D. Workers' Compensation:

As required by the State of Alabama Statute

E. Employers Liability:

\$ 1,000,000 Bodily Injury by Accident or Disease
\$ 1,000,000 Policy Limit by Disease

10.4 OTHER INSURANCE PROVISIONS:

The OWNER is hereby authorized to adjust the requirements set forth in this document in the event it is determined that such adjustment is in the OWNER's best interest. If the insurance requirements are not adjusted by the OWNER prior to the OWNER's release of specifications with regard to the PROJECT in question, then the minimum limits shall apply. The City of Huntsville/OWNER shall be named on the policies of general liability and automobile insurance and on the certificate of insurance as an Additional Insured. Additional Insured status on the Commercial General Liability policy shall be through ISO Additional Endorsement CG 20 10 11 85 or equivalent and coverage shall be afforded on a primary basis.

The policies are to contain, or be endorsed to contain, the following provisions:

A. All Coverage:

The ENGINEER is responsible to pay all deductibles. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled, non-renewal or materially changed by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the OWNER. Cancellation of coverage for non-payment of premium will require ten (10) days written notice to the OWNER.

10.5 ACCEPTABILITY OF INSURERS:

Insurance is to be placed with insurers authorized by the State of Alabama with an A. M. Best rating of A-V or better.

10.6 VERIFICATION OF COVERAGE:

The OWNER shall be indicated as a Certificate Holder and the ENGINEER shall furnish the OWNER with Certificates of Insurance reflecting the coverage required by this document. The A. M. Best rating and deductibles, if applicable, shall be indicated on the Certificate of Insurance for each insurance policy. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf and must be an original signature. Certificates signed using digital signatures will not be accepted. All certificates are to be received and approved by the OWNER before work commences. The OWNER reserves the right to require complete, certified copies of all required insurance policies at any time.

10.7 CONSULTANTS AND/OR SUBCONTRACTORS WORKING FOR THE ENGINEER:

The ENGINEER shall furnish separate certificates and/or endorsements for each subcontractor and/or consultant showing insurance of the same type or types and to the extent of the coverage set forth in this Article 10.

10.8 HOLD HARMLESS AGREEMENT:

A. Other Than Professional Liability Exposures:

The ENGINEER, to the fullest extent permitted by law, shall indemnify and hold harmless the OWNER, its elected and appointed officials, employees, agents, and representatives against all claims, damages, losses and expenses, including, but not limited to, attorney's fees, arising out of or resulting from the performance of the

work, provided that any such claim, damage, loss or expense (1) is attributable to personal injury, including bodily injury sickness, disease or death, or to injury to or destruction of tangible property, including loss of use resulting there from, and (2) is caused by any negligent act or omission of the ENGINEER or any of their consultants, or anyone directly or indirectly employed by them or anyone for whose acts they are legally liable. Such obligation should not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity, which would otherwise exist as to any party or person, described in this paragraph.

B. Professional Liability:

The ENGINEER agrees, to the fullest extent permitted by law, to defend, protect, indemnify and hold harmless the OWNER, its elected and appointed officials, officers, directors, employees, agents, and representatives from and against any and all liability, claims, demands, damages, loss, costs, fees, and expenses (including actual fees and expenses of attorneys, expert witnesses, and other consultants) actually or allegedly arising out of, or resulting from, the professional services of the ENGINEER or the ENGINEER's consultants, subcontractors, or suppliers, including, without limitation, any breach of contract or any negligent acts, errors, or omissions in the performance of the professional services provided pursuant to or as a result of this Agreement. Neither, the OWNER nor the ENGINEER shall be obligated to indemnify the other party in any manner whatsoever for the other parties own negligence. The OWNER agrees, to the fullest extent permitted by law, to indemnify and hold harmless the ENGINEER, its officers, directors, employees and sub consultants against all damages, liabilities or cost including reasonable attorney's fees and defense cost, to the extent caused by the OWNER's negligence acts in connection with the PROJECT and acts of its contractors, subcontractors, or consultants or anyone for whom the client is legally liable.

To the fullest extent permitted by law, the ENGINEER shall defend, protect, indemnify, and hold harmless the OWNER, its elected and appointed officials, officers, directors, employees, agents, and representatives from and against any and all liability, claims, demands, damages, loss, costs, fees and expenses (including actual fees and expenses of attorneys, expert witnesses, and other consultants) for infringement of patent rights, copyrights, or other intellectual property rights, except with respect to designs, processes or products of a particular manufacturer expressly required by the OWNER in writing. If the ENGINEER has reason to believe the use of a required design, process or product is an infringement of a patent, the ENGINEER shall be responsible for such loss unless such information is promptly given to the OWNER.

ARTICLE 11- MISCELLANEOUS PROVISIONS

11.1 GOVERNING LAW

This Agreement shall be governed by the law of the State of Alabama.

11.2 INTENT AND INTERPRETATION

11.2.1 The intent of this contract is to require complete, correct and timely execution of the work. Any work that may be required, implied or inferred by the contract documents, or any one or more of them, as necessary to produce the intended result shall be provided by the ENGINEER.

11.2.2 This contract is intended to be an integral whole and shall be interpreted as internally

consistent. What is required by any one contract document shall be considered as required by the contract.

11.2.3 When a word, term or phrase is used in this contract, it shall be interpreted or construed, first, as defined herein; second, if not defined, according to its generally accepted meaning in the engineering industry; and third, if there is no generally accepted meaning in the engineering industry, according to its common and customary usage.

11.2.4 The words "include", "includes", or "including", as used in this contract, shall be deemed to be followed by the phrase, "without limitation".

11.2.5 The specification herein of any act, failure, refusal, omission, event, occurrence or condition as constituting a material breach of this contract shall not imply that any other, non-specified act, failure, refusal, omission, event, occurrence or condition shall be deemed not to constitute a material breach of this contract.

11.2.6 Words or terms used as nouns in this contract shall be inclusive of their singular and plural forms, unless the context of their usage clearly requires a contrary meaning.

11.3 TIME IS OF THE ESSENCE

Time limitations contained herein, or provided for hereby, are of the essence of this Agreement. The ENGINEER understands and acknowledges that time is of the essence in completion of the PROJECT and that the OWNER will incur damages if the PROJECT is not completed on time.

11.4 SUCCESSORS AND ASSIGNS

The ENGINEER shall not assign its rights hereunder, excepting its right to payment, nor shall it delegate any of its duties hereunder without the written consent of the OWNER. Subject to the provisions of the immediately preceding sentence, the OWNER and the ENGINEER, respectively, bind themselves, their successors, assigns and legal representatives to the other party to this Agreement and to the successors, assigns and legal representatives of such other party with respect to all covenants of this Agreement. Nothing herein shall be construed as creating any personal liability on the part of any officer or agent of any public body that may be party hereof, nor shall it be construed as giving any rights or benefits hereunder to anyone other than OWNER and ENGINEER.

11.5 NO THIRD-PARTY BENEFICIARIES

This Agreement shall inure solely to the benefit of the parties hereto and their successors and assigns. Nothing contained herein is intended to or shall create a contractual relationship with, or any rights in favor of, or any cause of action in favor or, any third party, against the OWNER or the ENGINEER.

11.6 INTELLECTUAL PROPERTY/ CONFIDENTIALITY

All information, documents, and electronic media, computer source code furnished by the OWNER to the ENGINEER belong to the OWNER, are considered proprietary and confidential, unless otherwise indicated by the OWNER, and are furnished solely for use on the OWNER's PROJECT. Such information, documents, and electronic media, computer source code shall be kept confidential by the ENGINEER, shall only be released as necessary to meet official regulatory requirements in connection with the PROJECT, and shall not be used by the ENGINEER on any other PROJECT or in connection with any other person or entity, unless disclosure or use thereof in connection with any matter other than

services rendered to the OWNER hereunder is specifically authorized in writing by the OWNER in advance.

11.7 SUBCONTRACT REQUIREMENTS

The ENGINEER shall include the terms and conditions of this Agreement in every subcontract or agreement with a consultant for this PROJECT so that these terms and conditions shall be binding upon each subcontractor or consultant. The subcontractor(s)/consultant(s) will maintain all licenses and certifications to practice engineering by all public entities having jurisdiction over the PROJECT. The subcontractor(s)/consultant(s) further represent to the OWNER that the subcontractor(s)/consultant(s) will maintain all necessary licenses, certifications, permits or other authorizations necessary for the PROJECT until the remaining duties hereunder have been satisfied.

11.8 NOTICES

Unless otherwise provided, all notices shall be in writing and considered duly given if the original is hand delivered; if delivered by facsimile to 256-427-5325, or is sent by U.S. Mail, postage prepaid to City of Huntsville Engineering, P. O. Box 308 (35804), 320 Fountain Circle (35801), Huntsville, AL. All notices shall be given to the addresses set forth above. Notices, hand delivered or delivered by facsimile, shall be deemed given the next business day following the date of delivery. Notices given by U.S. Mail shall be deemed given as of the second business day following the date of posting.

11.9 STRICT COMPLIANCE

No failure of the OWNER to insist upon strict compliance by the ENGINEER with any provision of this Contract for Professional Services shall operate to release, waive, discharge, modify, change or affect any of the ENGINEER's obligations.

11.10 WAIVER

No provision of this Agreement may be waived except by written agreement of the parties. A waiver of any provision on one occasion shall not be deemed a waiver of that provision on any subsequent occasion, unless specifically stated in writing. A waiver of any provision shall not affect or alter the remaining provisions of this Agreement.

11.11 SEVERABILITY

If any provision of this Agreement, or the application thereof, is determined to be invalid or unenforceable, the remainder of that provision and all other provisions of this Agreement shall remain valid and enforceable.

11.12 ETHICS

The ENGINEER shall not offer or accept any bribes or kickbacks from or to any manufacturer, consultant, trade contractor, subcontractor, supplier or any other individual or entity in connection with the PROJECT. The ENGINEER shall not confer on any governmental, public or quasi-public official having any authority or influence over the PROJECT any payment, loan, subscription, advance, deposit of money, services or anything of more than nominal value, present or promised. The ENGINEER shall not, without the express written permission of the OWNER, engage or recommend to the OWNER engagement of any consultant, trade contractor, subcontractor, or supplier to provide services on behalf of the ENGINEER, OWNER or PROJECT in which the ENGINEER has a direct or indirect proprietary or other pecuniary interest; or call for the use of or by exclusion require or recommend the use of products, materials, equipment, systems, processes or

procedures in which the ENGINEER or in which any consultant, trade contractor, subcontractor, or supplier of the ENGINEER has a direct or indirect proprietary or other pecuniary interest. Without prior notification and written approval of the OWNER, the ENGINEER and the ENGINEER'S subconsultants shall not offer services to the OWNER'S contractor.

11.13 ALABAMA IMMIGRATION ACT

Compliance with the requirements of the (Beason-Hammon Alabama Taxpayer and Citizen Protection Act, Act No. 2012-535, Code of Alabama (1975) § 31-13-1 through 31-13-30, commonly referred to as the Alabama Immigration Law, is required for City of Huntsville, Alabama contracts as a condition of the contract performance. As a condition of this agreement, pursuant to Act No. 2012-535, Code of Alabama (1975) § 31-13-1 through 1-13-30, compliance with this requirement shall be done by the ENGINEER by completion of the "City of Huntsville, Alabama Report of Ownership Form" listed as Attachment 2 in this agreement and returning the completed form to the Engineering Division either by fax to 256/427-5325 to the attention of Mary Hollingsworth, email to Mary.Hollingsworth@huntsvilleal.gov, hand delivery or mail to: City of Huntsville Engineering Division, P. O. Box 308, Huntsville, AL 35804. The form shall be returned at the time of the signing of the contract by the ENGINEER and must be submitted before the contract is presented to the City of Huntsville City Council for approval.

11.14 E-VERIFY – NOTICE

The Beason-Hammon Alabama Taxpayer and Citizen Protection Act, Act No. 2012-535, Code of Alabama (1975) § 31-13-1 through 31-13-30" (also known as and hereinafter referred to as "the Alabama Immigration Act") is applicable to contracts with the City of Huntsville. As a condition for the award of a contract and as a term and condition of the contract with the City of Huntsville, in accordance with § 31-13-9 (a) of the Alabama Immigration Act, any business entity or employer that employs one or more employees shall not knowingly employ, hire for employment, or continue to employ an unauthorized alien and shall attest to such by sworn affidavit signed before a notary. Such business entity or employer shall provide a copy of such affidavit to the City of Huntsville as part of its bid or proposal for the contract along with a copy of the Memorandum of Understanding as documentation establishing that the business entity or employer is enrolled in the E-Verify program. The required affidavit form for the business entity and for sub-consultants/business entities employed by the contracting business entity are included as Attachment 3 in this contract. The original affidavit for your business entity must be returned to the City of Huntsville, the affidavit for the subcontractors should be kept on file in your office, and be made available to the city if requested.

During the performance of the contract, such business entity or employer shall participate in the E-Verify program and shall verify every employee that is required to be verified according to the applicable federal rules and regulations. The business entity or employer shall assure that these requirements are required of every subcontractor in accordance with §31-13-9(c) and shall maintain records that are available upon request by the City, state authorities or law enforcement to verify compliance with the requirements of the Alabama Immigration Act. Failure to comply with these requirements may result in breach of contract, termination of the contract or subcontract, and possibly suspension or revocation of business licenses and permits in accordance with §31-13-9 (e) (1) & (2) or in the case of a subcontractor, in accordance with §31-13-9 (f) (1) & (2).

11.15 ENTIRE AGREEMENT

This Agreement represents the entire agreement between the OWNER and the ENGINEER and supersedes all prior communications, negotiations, representations or agreements, either written or oral. This agreement may be amended only by written instrument signed by both OWNER and ENGINEER.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day and year first above written.

**OWNER:
CITY OF HUNTSVILLE**

BY: _____
Tommy Battle

TITLE: _____
Mayor

ATTEST: _____

Given under my hand this _____ day

Of _____, 2012.

Notary Public

My commission expires _____

**ENGINEER:
BROWN AND CALDWELL**

BY: _____
Craig Ferguson

TITLE: _____
Vice President

ATTEST: _____
Vici E. Hood

Given under my hand this 10th day

Of May, 2012.

Notary Public

Notary Public, Fulton County, Georgia
My commission expires My Commission Expires Dec. 10, 2013

ATTACHMENT 1-SCOPE OF SERVICES

(Refer to Letter dated April 24, 2012 from Craig A. Ferguson, to Shane Davis and attachments).

Brown AND
Caldwell

April 24, 2012

Mr. Gary Gleason
City of Huntsville
Engineering Divisions
P.O. Box 308
Huntsville, Alabama 35801

1016-041040-011

Subject: City of Huntsville
FEMA Letter of Map Revision (LOMR) Application/Request Package for a
Portion of Beaverdam Creek 2 and Its Tributaries

Dear Mr. Gleason:

Brown and Caldwell (BC) is pleased to offer this proposal to the City of Huntsville (City) to provide hydrologic and hydraulic (H&H) modeling services in support of a Letter of Map Revision (LOMR) Application/Request Package for a significant portion of Beaverdam Creek 2 and its tributaries. The following sections outline our approach and scope of work, deliverable, assumptions, cost estimate and schedule for this project.

Introduction

In the Effective and Preliminary mapping, the main stem of the creek of interest is referred to as Beaverdam Creek 2 as shown north of Interstate 565. However, on the Preliminary mapping further upstream within City of Huntsville and Madison (to be corrected on later publications) and on Limestone County Effective mapping, the same segment is referred to as Beaverdam Creek. For this proposal the Beaverdam Creek 2 designation will be used.

The area of interest for this proposal begins on the downstream end at the intersection of Beaverdam Creek 2 and Interstate 565. The study area continues upstream and includes several tributaries to Beaverdam Creek 2. For clarification, the limits of the hydraulic modeling and mapping are shown on Figure 1 and includes roughly 11.4 miles of stream channel.

A portion of the main stem has an existing effective study; however, the model and mapping were not updated as part of the recent Map Maintenance (Preliminary mapping) process. Two tributaries, Moore Branch and Oakland Spring Branch, have detailed models and were updated recently.

Scope of Work

BC has developed the following scope of work necessary to create H&H models, develop floodplain and floodway mapping, and submit a LOMR application/request package for the study area (Figure 1). We have broken the tasks down as follows:

Mr. Gary Gleason
City of Huntsville
April 24, 2012
Page 2

- Task 1 – Data Collection and Survey
- Task 2 – Hydrologic Model
- Task 3 – Hydraulic Model and Mapping
- Task 4 – Reporting
- Task 5 – Office of Water Resources (OWR) LOMR Submittal.

A detailed discussion of each of these tasks is provided in the following section.

Task 1 Data Collection and Survey

Data Collection

BC will perform the following key tasks for data collection for this project.

BC will contact FEMA to obtain the Effective model for the downstream end of the study area. In addition, BC will contact the Alabama Department of Economic and Community Affairs (ADECA) OWR to acquire the most current models for the upstream segments of interest (Moore Branch and Oakland Spring Branch).

BC will use the City of Huntsville's online GIS Data Depot to obtain the needed base data for the study area. If the data is not available on the Depot website, a data request will be submitted to the City Planning/GIS department. Anticipated data needed include:

- Land Use
- Aerial Photography
- Topography
- Planimetrics and other base mapping
- Hydrography/Storm Sewer Network Inventory.

To supplement the City's data, BC will obtain and document GIS data from outside sources such as the United States Geologic Survey (USGS), the Natural Resources Conservation Service (NRCS), and Alabama State Water Quality Program.

Survey

BC will use a subconsultant, AMEC, for the survey work.

AMEC will document and utilize a benchmark located on the Preliminary mapping, after verifying its elevation by running a minimum 4-hour OPUS session (OPUS report and elevation certification by an Alabama Professionally Licensed Surveyor to be included in deliverable documentation). Survey elevation data will be collected based on NAVD88 datum computed using the latest applicable NGS geoid, and survey horizontal data will be collected based on the State Plane AL East Zone NAD83 system.

Road crossing information and stream crossing data will be collected by the surveyor. The stream crossing data will be supplemented with the City's 2-foot topography for additional overbank information.

Survey data will be collected for up to 20 stream crossings. For each cross-section, survey data is to be taken at;

Mr. Gary Gleason
City of Huntsville
April 24, 2012
Page 3

- Regular spacing along the cross-section
- At least two points to define locations of dramatic grade change
- Top of bank (both sides)
- Bottom of bank/toe (both sides)
- Three or four points of the channel bed and one at the thalweg (deepest point)

In addition, survey data will be collected for up to 10 roadway crossings. For each road crossing the following information is to be gathered:

- Roadway top width, high chord and low chord
- Upstream and downstream face cross-section
- If bridge – pier location, dimensions and material, abutment slope and material
- If culvert – number of barrels, upstream and downstream invert(s), width and height or diameter (as appropriate)

The location of the roadway crossings and stream crossing are shown on Figure 2.

To aid in the development of model parameters, eight photographs will be taken at each road crossing. The photos will include creek upstream, left overbank, right overbank, and creek downstream, left overbank and right overbank, all from the top of crossing, as well as crossing itself from approximately 150 feet upstream and downstream. A survey rod will be visible in each photo for scale.

Task 2 Hydrologic Model

BC will develop a hydrologic model for the study area watershed. The watershed starts roughly south of Highway 72 and covers approximately 18 square miles (a more refined watershed area will be developed as part of this task).

BC will use the HEC-HMS model (version 3.5) for the watershed hydrologic analysis and will document the resultant discharges at flow change locations relevant to the HEC-RAS hydraulic model(s) for the 2-, 10-, 25-, 50-, 100- and 500-year storm events. The methods and results of the hydrologic model will be documented for inclusion in a comprehensive project report that will be submitted to the City of Huntsville for review/comment and subsequent revision (Task 4).

BC will use City of Huntsville 2-foot topographical contour information to create a Digital Elevation Model (DEM) of the study area. The DEM will be used to develop a flow accumulation model and delineate subwatersheds. A ½-square-mile subwatershed will be delineated for the locations where the hydraulic model begins at the ½-square-mile threshold. The subwatersheds downstream of these may be smaller or larger than ½ square mile and will generally be based on stream confluences or roadway crossings. For areas in the City of Madison where more detailed analysis will not be performed, the subwatershed areas will likely be larger than ½ square mile.

BC will use available digital land use information supplied by the City, supplemented with 2010 aerial photos provided by the City, to create existing land use GIS files within the city limits. However, as a significant amount of the watershed is outside the city limits, additional data sources, such as the National Land Cover Dataset, will also be

Mr. Gary Gleason
City of Huntsville
April 24, 2012
Page 4

used to develop the land use file, along with local knowledge. This GIS file will be submitted to the City for review/comment and subsequent revision.

BC will combine the land use coverage with hydrologic soil group data and develop composite runoff curve numbers for each subwatershed in the study area.

BC will determine and document flow paths and associated runoff time-of-concentrations calculations for each subwatershed taking into account topography, hydrography, development, infrastructure, etc.

A model run will be developed for the 2-, 10-, 25-, 50-, 100- and 500-year flood events for existing land use conditions.

No gauge data is available for the study area; as a result, BC will compute the USGS regression equation discharges, compare them to the HMS results, and calibrate as determined necessary by the project engineer(s) and City.

BC will document the hydrologic modeling and calibration efforts and subsequently the results (Task 4). One meeting between BC and the City will be held to discuss the input and results of the hydrologic model.

Task 3 Hydraulic Model and Mapping

The current Effective model for the portion of Beaverdam Creek 2 just upstream of I-565 will be converted from HEC-2 into HEC-RAS (version 4.1.0). This converted model will be used to create the Duplicate Effective model. Using the City's 2-foot topography, supplemented with survey data, cross-sections will be developed for the existing conditions model covering the areas designated on Figure 1.

Cross-sections for the portion of the model in the current Effective model will be cut in the DEM at approximately the same locations for comparison and revision, including the use of collected field survey, at the discretion of the project engineer(s). The current Effective model revision from the Duplicate Effective model to a Corrected Effective/Existing Conditions model will include review of Manning's n values, reach lengths comparison (FIS report versus measured), and discharge comparison. Additionally, the Corrected Effective/Existing Conditions model will incorporate the preliminary models for Moore Branch and Oakland Spring Branch. As part of the hydraulic model review, the profiles of all modeled events in the Corrected Effective/Existing Conditions model will be examined and any profile crossings will be corrected.

BC will create digital floodway and floodplains (100-year and 500-year) layers in ESRI/shapefile polygon format and cross-sections in ESRI/shapefile polyline format. The base maps to be used for floodplain mapping will include City of Huntsville 2-foot contours supplemented with survey data (where available) and roadway layers.

Based on the results of the hydraulic modeling, public notification of changes to the floodway and floodplain may be necessary. If public notification is necessary, BC will also provide areas of Base Flood Elevation (BFE) increase in ESRI/shapefile polygon format to the City to generate required legal notices and/or form letters announcing the proposed regulatory changes.

Mr. Gary Gleason
City of Huntsville
April 24, 2012
Page 5

The details of the methods used, results, and associated graphics, spreadsheets, etc. of the hydraulic modeling effort will be documented for inclusion in a comprehensive project report that will be submitted to the City of Huntsville for review/comment and revision (Task 4). In addition, BC will document the mapping process and deliver digital files as discussed above as part of the project report.

Task 4 Reporting

BC will develop a single comprehensive report to document the methods used and results for this Beaverdam Creek 2 study and submit it to the City for review/comment and subsequent revision. BC will address those comments and finalize the report for submission to OWR.

The report will include a hydrology section that details the methods used to create the inputs for the hydrologic model and the results of the model for the 2-, 10-, 25-, 50-, 100- and 500-year storm events. In addition, the report will include a hydraulic section that will detail the inputs and results of the hydraulic model. The report will also include appropriate figures including the delineated floodplains and floodway for the study area, as well as a CD with all digital data in appropriate formats.

A meeting will be held to discuss the City's comments and finalize the project report.

Task 5 OWR LOMR Submittal

BC will prepare a single LOMR application/request package of the existing conditions, including the appropriate FEMA forms (MT-2), for this Beaverdam Creek 2 study, to include the minimum information (specifically event frequencies) required.

BC will submit the LOMR application package to the City for review/comment, subsequent revision, and ultimately concurrence. The City will generate and distribute the FEMA-required property owner notifications per 65.7(b)(1) of the NFIP regulations. BC will forward the LOMR package to the OWR with any required review fees provided by the City.

OWR has a 90-day time frame in which to respond to the submittal and may ask for more information via an "AD" (additional data) letter, e-mail, or informal call. As part of task 5, BC will respond to OWR and provide the minimum information required for the LOMR. The response letter will be prepared by BC and submitted to Client for review/comment and possible revision request(s) prior to being submitted to OWR.

Task 6 Additional OWR Requests for Information

The number of times that OWR/FEMA can request additional information (whether formally with additional AD letters or informally by phone, e-mail, etc.) is unlimited. As a result, this task is established to handle potential requests beyond initial AD letter and minimum information required for a LOMR application/request. BC will get prior Client approval before performing any work under this task. All OWR requests and responses shall be documented and provided to Client for review and comment prior to being submitted to OWR. BC will provide the client with an updated Comprehensive Report that reflects any revisions made as a result of OWR comments and data request. Should this scope not be sufficient to accommodate OWR requests for additional

Mr. Gary Gleason
City of Huntsville
April 24, 2012
Page 6

information, BC will develop an estimate to address the comments using the rates listed in the proposal for a possible additional contract or existing contract modification.

Deliverables

- One map of existing land use for City Review (color PDF format and hard copy)
- Two meetings with the City as follows:
 - One meeting to review the hydrologic model and results
 - One meeting to discuss revisions and finalize report
- Comprehensive Project Report
 - One hard-copy and electronic version of text and tables in Word format of a draft report will be provided for review and comment by the City.
 - After addressing City comments on the draft report, two hard copies of the final report (including a disk with all related electronic files in appropriate formats) will be submitted to the City. The final text and figures of the report will be scanned into a color PDF file and provided on disk with all related electronic files. Generally the report will include:
 - Hydrology Documentation—figures and tables showing flow changes at selected locations, time-of-concentration, flow paths, and curve numbers used
 - Hydraulic Documentation—a summary of model results and all profiles in figure format
 - 100- and 500-year Floodplain and Floodway Mapping, including final/modeled cross-section locations
 - Complete LOMR application request package
 - Survey data
 - Control documentation
 - Digital points, geographically (x, y, and z) located
 - Annotated sketches of conveyance openings at bridges/culverts
 - Electronic photograph files.
 - A CD of all related electronic data, including spreadsheets, model files, GIS data, CAD files, and survey point files, as well as the scanned color PDF file of the report (as previously discussed).
 - Updated Comprehensive Report
 - One hard copy and electronic version reflecting modifications made as a part of the OWR review. Deliverable will include the same components detailed under the Comprehensive Report deliverable.

Mr. Gary Gleason
City of Huntsville
April 24, 2012
Page 7

Assumptions

The following assumptions have been applied in the development of this proposal:

1. Project fee does not include OWR/FEMA fees of any kind.
2. No public notifications or meetings are anticipated as part of this proposal.
3. BC cannot guarantee that FEMA will grant a LOMR. A set amount of time has been allotted to addressing OWR comments. If OWR comments require time beyond this allotment, BC will develop an estimated cost for addressing comments based on the labor rate list on the following page.
4. The City's 2-foot topography and 2010 aerial photographs, supplemented with the 2007 versions if needed, cover the entire study area.
5. The City will provide horizontal and vertical control and datum information for the City-supplied 2-foot topographical data, as required by FEMA.
6. The current effective model for the portion of Beaverdam Creek 2 just upstream of I-565 will be obtained from FEMA/OWR and be in HEC-2 format.
7. OWR/FEMA will provide the HEC-RAS models developed by others for Moore Branch and Oakland Spring Branch.

Mr. Gary Gleason
City of Huntsville
April 24, 2012
Page 8

Cost Estimate

A fee of \$89,391 is proposed for the services presented herein. A summary of the effort required for this project is presented in the project cost estimate table below. Labor effort will be charged on a time-and-materials basis not to exceed, using the hourly rates indicated in the personnel fee schedule also shown. The details for the survey are listed separately on page 9.

Table 1. Project Cost Estimate

Task Number	Task Description	Principal			GIS		Acct/Word		Total Hours	Labor Costs		Expenses	Total Cost
		Sci	Eng	Mng	Sci/Eng/III	Specialist	Proc						
1	Data Collection and Survey	\$ 158.00	\$ 158.00	\$ 191.00	\$ 106.00	\$ 85.00	\$ 71.00						
	Gather Background Data		4		8				12	\$ 1,480			\$ 1,480
	Survey Coordination		8						8	\$ 1,264			\$ 1,264
	Survey Deliverables	2	4						0	\$ -	\$ 23,468		\$ 23,468
		2	16	0	8	0	3		9	\$ 1,161			\$ 1,161
	Subtotal								29	\$ 3,905	\$ 23,468		\$ 27,373
2	Hydrologic Model								0				
	Create DEM and flow accumulation model	2	2	1	4	12			19	\$ 1,951			\$ 1,951
	Develop flowpaths, Tc, and curve numbers	6	6	1	20	40			67	\$ 6,859			\$ 6,859
	Develop model	8	8	4	52				64	\$ 7,540			\$ 7,540
	Calibrate	6	6		8				14	\$ 1,796			\$ 1,796
	Project Meetings	2	4						9	\$ 1,161			\$ 1,161
	Subtotal	2	26	6	84	52	3		173	\$ 19,107	\$ -		\$ 19,107
3	Hydraulic Model & Mapping												
	Duplicate Effective	6	6	1	16				23	\$ 2,835			\$ 2,835
	Corrected Effective/Existing Conditions	16	16	2	80				98	\$ 11,390			\$ 11,390
	Mapping	2	8	1	32				46	\$ 5,376			\$ 5,376
	Subtotal	2	30	4	128	0	3		167	\$ 19,601	\$ -		\$ 19,601
4	Reporting												
	draft	16	16	4	36	12			68	\$ 8,128			\$ 8,128
	final	8	8	1	16	8			33	\$ 3,831			\$ 3,831
	Project Meetings	2	6						14	\$ 1,690			\$ 1,690
	Subtotal	2	30	5	52	20	6		115	\$ 13,649	\$ -		\$ 13,649
5	OWR LOMR Submittal												
	Develop LOMR package	8	8	1	24				33	\$ 3,999			\$ 3,999
	Subtotal	0	8	1	24	0	0		33	\$ 3,999	\$ -		\$ 3,999
6	Additional OWR Requests for information												
	Address OWR/FEMA comments	1	8		40				49	\$ 5,862			\$ 5,862
	Subtotal	1	8	0	40	0	0		49	\$ 5,862	\$ -		\$ 5,862
	Labor Costs	\$ 1,422	\$ 18,644	\$ 3,056	\$ 35,616	\$ 6,120	\$ 1,065		586	\$ 65,923	\$ 23,468		\$ 89,391

Table 2 Survey Cost Estimate

Task Number	Task Description	Project Manager		Project Surveyor		Survey P.C.		Survey I. Man		Survey R. Man		Tech Designer		Total Hours	Labor Cost	Expenses	Total Cost	
		\$		\$		\$		\$		\$		\$						
1	Establish GPS Control					4		40		40				4	88	\$ 4,460	-	\$ 4,460
2	Preliminary Survey			8		100		100		100		60		15	282	\$ 13,640	\$ 3,488	\$ 17,128
3	Project Coordination	4												4	4	\$ 480	-	\$ 480
4	Supervision	4												4	4	\$ 480	-	\$ 480
5	Travel time							8		8		4		20	20	\$ 920	-	\$ 920
Hours		8		10		148		148		148		64		20	398			
Labor Costs \$		960	\$	800	\$	7,400	\$	6,660	\$	6,660	\$	2,560	\$	1,500		\$ 19,980	\$	\$ 23,468

Mr. Gary Gleason
City of Huntsville
April 24, 2012
Page 10

Table 3. Brown and Caldwell Personnel Fee Schedule

Classification	Rate	Staff
Managing Engineer/Scientist	\$191	Jeff Herr, Hal Clarkson
Supervising Engineer/Scientist	\$175	
Principal Engineer/Scientist	\$158	Lori Visone, Jill Stachura, Aylin Lewallen
Senior Engineer/Scientist	\$126	Carl McDonald
Engineer/Scientist III	\$106	Arvind Narayanan, Andy Patceg
Engineer/Scientist II	\$97	
Engineer/Scientist I	\$91	Andrea Althoff
GIS Specialist	\$85	Ryan Jones
Accounting & Word Processing	\$71	Natalie Dossie, Elaine Sharpe, Carol Sullins

These Rates will remain in effect throughout the duration of the contract.

Schedule

The work defined herein shall begin immediately upon receiving a signed agreement. The estimated project schedule is provided below.

Table 4. Proposed Schedule

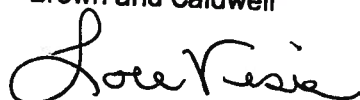
	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7
Task 1 Data Collection							
Task 2 Hydrologic Model							
Task 3 Hydraulic Model and Mapping							
Task 4 Reporting							
Task 5 OWR LOMR Submittal*							

*Schedule only includes LOMR Submission time frame, response from OWR will dictate the remainder of schedule.

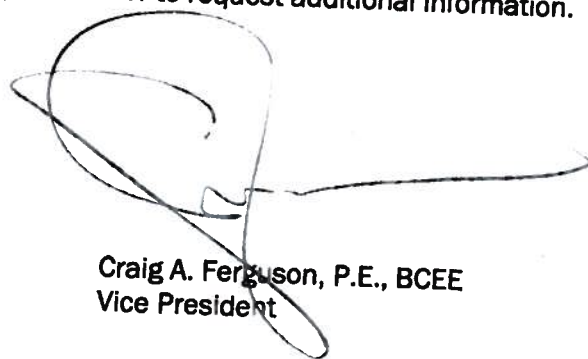
Thank you for the opportunity to submit this proposal for engineering and consulting services. Do not hesitate to call with questions or to request additional information.

Very truly yours,

Brown and Caldwell



Lori Visone, P.E.
Project Manager

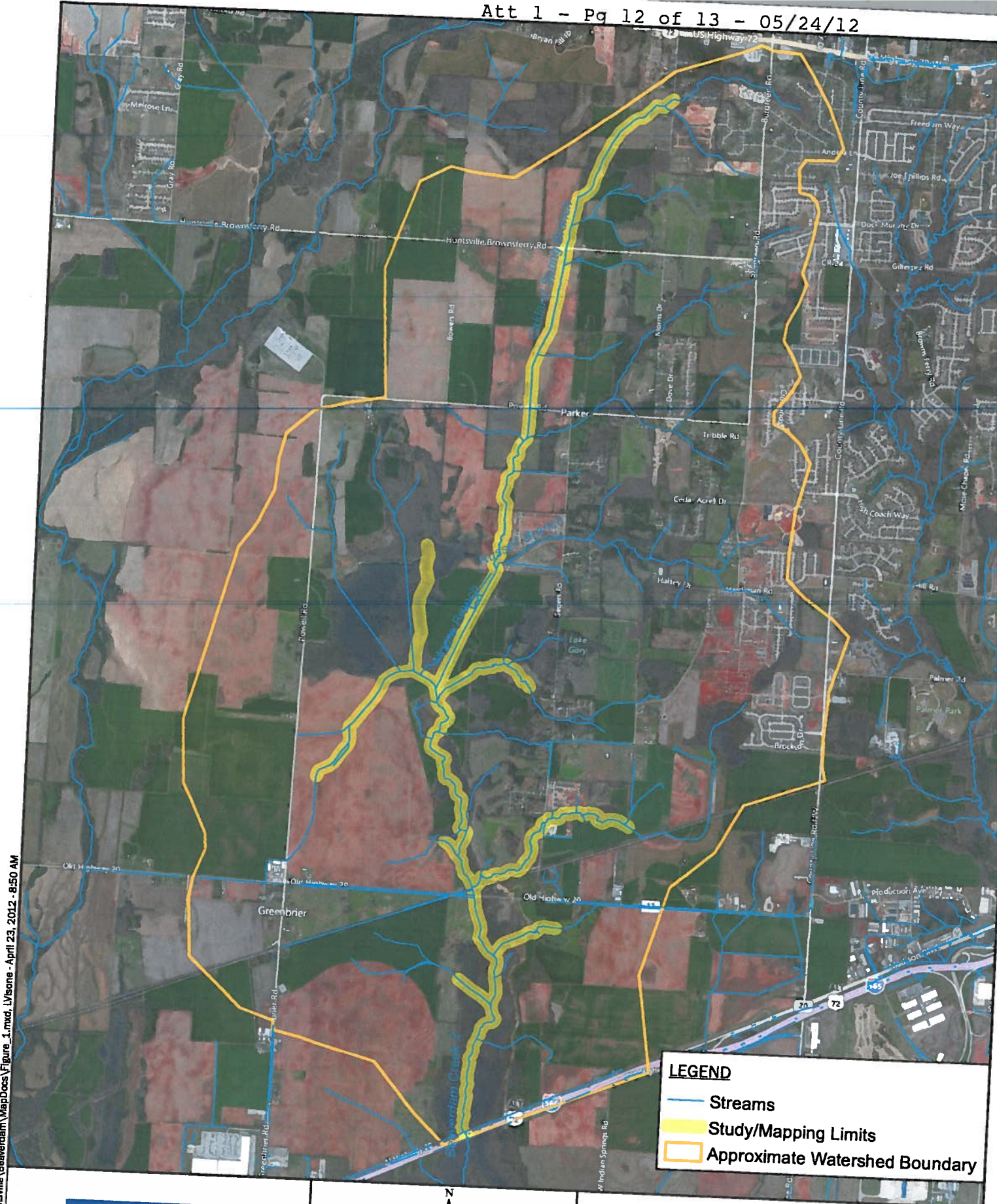


Craig A. Ferguson, P.E., BCEE
Vice President

LDV:CAF:dcm
Attachments (2)

1. Figure 1
2. Figure 2

L:\Proposals\041040Huntsville\Beaverdam\MapDocs\Figure_1.mxd, LVione - April 23, 2012 - 8:50 AM



LEGEND

- Streams
- Study/Mapping Limits
- Approximate Watershed Boundary

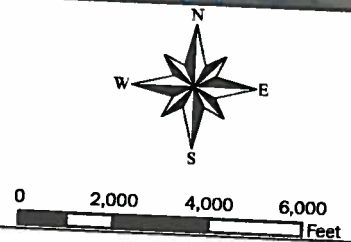
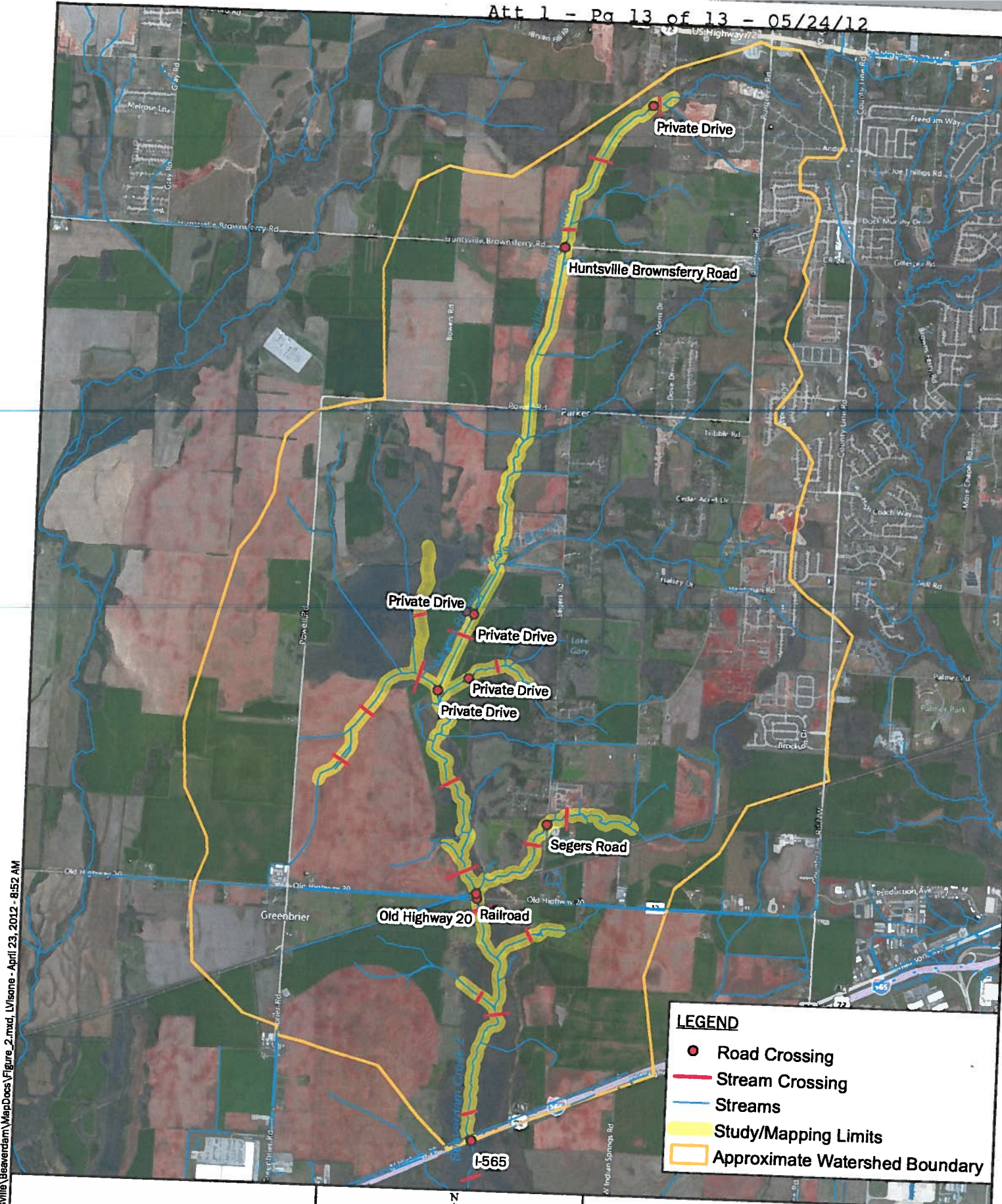


Figure 1
Study Area
Beaverdam Creek 2 LOMR
City of Huntsville, Alabama



Brown AND Caldwell

Figure 2
Survey Data Collection Locations
*Beaverdam Creek 2 LOMR
City of Huntsville, Alabama*

ATTACHMENT 2 - ALABAMA IMMIGRATION ACT - REPORT OF OWNERSHIP FORM

A. General Information. Please provide the following information:

- Legal name(s): BROWN AND CALDWELL
- Doing business as (if applicable): Brown AND Caldwell
- City of Huntsville current taxpayer identification number (if available): 39719-1
(Please note that if this number has been assigned by the City and if you are renewing your business license, the number should be listed on the renewal form.)

B. Type of Ownership. Please complete the un-shaded portions of the following chart by checking the appropriate box below and entering the appropriate Entity I.D. Number, if applicable:

<input type="checkbox"/> Individual or Sole Proprietorship	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<input type="checkbox"/> Partnership	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<input type="checkbox"/> Limited Partnership	Number: _____	Not Applicable	Not Applicable	Not Applicable
<input type="checkbox"/> Limited Liability Partnership (LLP)	Number: _____	Not Applicable	Not Applicable	Not Applicable
<input type="checkbox"/> Limited Liability Company (LLC) (Single Member)	Number: _____	Not Applicable	Not Applicable	Not Applicable
<input type="checkbox"/> LLC (Multi-Member)	Number: _____	Not Applicable	Not Applicable	Not Applicable
<input checked="" type="checkbox"/> Corporation	Number: <u>862-548</u>	Not Applicable	Not Applicable	Not Applicable
<input type="checkbox"/> Other, please explain:	Number: _____ (If a filing entity under state law)	Not Applicable	Not Applicable	Not Applicable

- C. Immigration Law. Please note that each owner who is an individual, as identified in the last column of the chart above, must provide proof of U.S. Citizenship or lawful alien presence in accordance with Ala. Act 2011-535 by completing the applicable forms, as provided by the City. In the case of a partnership whose partners must be verified, you are requested to please provide a copy of the Partnership Agreement or other appropriate documentation evidencing the names of each individual who is a partner in the partnership, unless such information is available by searching the Alabama Secretary of State's website and an Entity I.D. Number has been provided.

¹ Entity I.D. Numbers. If an Entity I.D. Number is required and if the business entity is registered in this state, the number is available through the website of Alabama's Secretary of State at: www.sos.state.al.us/, under "Government Records". If a foreign entity is not registered in this state please provide the Entity I.D. number (or other similar number by whatever named called) assigned by the state of formation along with the name of the state.

² Formation Documents. Formation documents, including articles or certificates of incorporation, organization, or other applicable formation documents of the entity, as recorded in the probate records of the applicable county and state of formation, are not required unless: (1) specifically requested by the City, or (2) an Entity I.D. Number is required and one has not been assigned or provided.

ATTACHMENT 3 E-VERIFY AFFIDAVIT & MOU

FORM FOR SECTIONS 9 (a) and (b) BEASON-HAMMON ALABAMA TAXPAYER AND CITIZEN PROTECTION ACT; CODE OF ALABAMA, SECTIONS 31-13-9 (a) and (b)

AFFIDAVIT FOR BUSINESS ENTITY/EMPLOYER /CONTRACTOR

(To be completed as a condition for the award of any contract, grant, or incentive by the State of Alabama, any political subdivision thereof, or any state-funded entity to a business entity or employer that employs one or more employees)

State of Georgia

County of Fulton

Before me, a notary public, personally appeared CRAIG A. FERGUSON (print name) who, being duly sworn, says as follows:

As a condition for the award of any contract, grant, or incentive by the State of Alabama, any political subdivision thereof, or any state-funded entity to a business entity or employer that employs one or more employees, I hereby attest that in my capacity as VICE PRESIDENT (state position) for BROWN AND CALDWELL (state business entity/employer/contractor name) that said business entity/employer/contractor shall not knowingly employ, hire for employment, or continue to employ an unauthorized alien.

I further attest that said business entity/employer/contractor is enrolled in the E-Verify program. (ATTACH DOCUMENTATION ESTABLISHING THAT BUSINESS ENTITY/EMPLOYER/CONTRACTOR IS ENROLLED IN THE E-VERIFY PROGRAM) Brown and Caldwell E-Verify No. MNEW1351.

[Signature] Signature of Affiant

Sworn to and subscribed before me this 26th day of April, 2012

I certify that the affiant is known (or made known) to me to be the identical party he or she claims to be.

Vici E. Hood Signature and Seal of Notary Public

Vici E. Hood

Notary Public, Fulton County, Georgia
My Commission Expires Dec. 10, 2013

Company ID Number: 69828

THE E-VERIFY PROGRAM FOR EMPLOYMENT VERIFICATION
MEMORANDUM OF UNDERSTANDING

ARTICLE I

PURPOSE AND AUTHORITY

This Memorandum of Understanding (MOU) sets forth the points of agreement between the Social Security Administration (SSA), the Department of Homeland Security (DHS) and **Brown and Caldwell** (Employer) regarding the Employer's participation in the Employment Eligibility Verification Program (E-Verify). E-Verify is a program in which the employment eligibility of all newly hired employees will be confirmed after the Employment Eligibility Verification Form (Form I-9) has been completed.

Authority for the E-Verify program is found in Title IV, Subtitle A, of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 (IIRIRA), Pub. L. 104-208, 110 Stat. 3009, as amended (8 U.S.C. § 1324a note).

ARTICLE II

FUNCTIONS TO BE PERFORMED

A. RESPONSIBILITIES OF THE SSA

1. Upon completion of the Form I-9 by the employee and the Employer, and provided the Employer complies with the requirements of this MOU, SSA agrees to provide the Employer with available information that allows the Employer to confirm the accuracy of Social Security Numbers provided by all newly hired employees and the employment authorization of U.S. citizens.
2. The SSA agrees to provide to the Employer appropriate assistance with operational problems that may arise during the Employer's participation in the E-Verify program. The SSA agrees to provide the Employer with names, titles, addresses, and telephone numbers of SSA representatives to be contacted during the E-Verify process.
3. The SSA agrees to safeguard the information provided by the Employer through the E-Verify program procedures, and to limit access to such information, as is appropriate by law, to individuals responsible for the verification of Social Security Numbers and for evaluation of the E-Verify program or such other persons or entities who may be authorized by the SSA as governed by the Privacy Act (5 U.S.C. § 552a), the Social Security Act (42 U.S.C. 1306(a)), and SSA regulations (20 CFR Part 401).
4. SSA agrees to establish a means of automated verification that is designed (in conjunction with DHS's automated system if necessary) to provide confirmation or tentative nonconfirmation of U.S. citizens' employment eligibility and accuracy of SSA records for both citizens and aliens within 3 Federal Government work days of the initial inquiry.

Company ID Number: 69828

5. SSA agrees to establish a means of secondary verification (including updating SSA records as may be necessary) for employees who contest SSA tentative nonconfirmations that is designed to provide final confirmation or nonconfirmation of U.S. citizens' employment eligibility and accuracy of SSA records for both citizens and aliens within 10 Federal Government work days of the date of referral to SSA, unless SSA determines that more than 10 days may be necessary. In such cases, SSA will provide additional verification instructions.

B. RESPONSIBILITIES OF THE DEPARTMENT OF HOMELAND SECURITY

1. Upon completion of the Form I-9 by the employee and the Employer and after SSA verifies the accuracy of SSA records for aliens through E-Verify, DHS agrees to provide the Employer access to selected data from DHS's database to enable the Employer to conduct:

- Automated verification checks on newly hired alien employees by electronic means, and
- Photo verification checks (when available) on newly hired alien employees.

2. DHS agrees to provide to the Employer appropriate assistance with operational problems that may arise during the Employer's participation in the E-Verify program. DHS agrees to provide the Employer names, titles, addresses, and telephone numbers of DHS representatives to be contacted during the E-Verify process.

3. DHS agrees to provide to the Employer a manual (the E-Verify Manual) containing instructions on E-Verify policies, procedures and requirements for both SSA and DHS, including restrictions on the use of E-Verify. DHS agrees to provide training materials on E-Verify.

4. DHS agrees to provide to the Employer a notice, which indicates the Employer's participation in the E-Verify program. DHS also agrees to provide to the Employer anti-discrimination notices issued by the Office of Special Counsel for Immigration-Related Unfair Employment Practices (OSC), Civil Rights Division, and U.S. Department of Justice.

5. DHS agrees to issue the Employer a user identification number and password that permits the Employer to verify information provided by alien employees with DHS's database.

6. DHS agrees to safeguard the information provided to DHS by the Employer, and to limit access to such information to individuals responsible for the verification of alien employment eligibility and for evaluation of the E-Verify program, or to such other persons or entities as may be authorized by applicable law. Information will be used only to verify the accuracy of Social Security Numbers and employment eligibility, to enforce the Immigration and Nationality Act and federal criminal laws, and to ensure accurate wage reports to the SSA.

7. DHS agrees to establish a means of automated verification that is designed (in conjunction with SSA verification procedures) to provide confirmation or tentative nonconfirmation of employees' employment eligibility within 3 Federal Government work days of the initial inquiry.

Company ID Number: 69828

8. DHS agrees to establish a means of secondary verification (including updating DHS records as may be necessary) for employees who contest DHS tentative nonconfirmations and photo non-match tentative nonconfirmations that is designed to provide final confirmation or nonconfirmation of the employees' employment eligibility within 10 Federal Government work days of the date of referral to DHS, unless DHS determines that more than 10 days may be necessary. In such cases, DHS will provide additional verification instructions.

C. RESPONSIBILITIES OF THE EMPLOYER

1. The Employer agrees to display the notices supplied by DHS in a prominent place that is clearly visible to prospective employees.

2. The Employer agrees to provide to the SSA and DHS the names, titles, addresses, and telephone numbers of the Employer representatives to be contacted regarding E-Verify.

3. The Employer agrees to become familiar with and comply with the E-Verify Manual.

4. The Employer agrees that any Employer Representative who will perform employment verification queries will complete the E-Verify Tutorial before that individual initiates any queries.

- A. The employer agrees that all employer representatives will take the refresher tutorials initiated by the E-Verify program as a condition of continued use of E-Verify.
- B. Failure to complete a refresher tutorial will prevent the employer from continued use of the program.

5. The Employer agrees to comply with established Form I-9 procedures, with two exceptions:

- If an employee presents a "List B" identity document, the Employer agrees to only accept "List B" documents that contain a photo. (List B documents identified in 8 C.F.R. § 274a.2 (b) (1) (B)) can be presented during the Form I-9 process to establish identity).
- If an employee presents a DHS Form I-551 (Permanent Resident Card) or Form I-766 (Employment Authorization Document) to complete the Form I-9, the Employer agrees to make a photocopy of the document and to retain the photocopy with the employee's Form I-9. The employer will use the photocopy to verify the photo and to assist the Department with its review of photo non-matches that are contested by employees. Note that employees retain the right to present any List A, or List B and List C, documentation to complete the Form I-9. DHS may in the future designate other documents that activate the photo screening tool.

6. The Employer understands that participation in E-Verify does not exempt the Employer from the responsibility to complete, retain, and make available for inspection Forms I-9 that relate to its employees, or from other requirements of applicable regulations or laws, except for the following modified requirements applicable by reason of the Employer's participation in E-Verify: (1) identity documents must have photos, as described in paragraph 5 above; (2) a

Company ID Number: 69828

rebuttable presumption is established that the Employer has not violated section 274A(a)(1)(A) of the Immigration and Nationality Act (INA) with respect to the hiring of any individual if it obtains confirmation of the identity and employment eligibility of the individual in compliance with the terms and conditions of E-Verify ; (3) the Employer must notify DHS if it continues to employ any employee after receiving a final nonconfirmation, and is subject to a civil money penalty between \$500 and \$1,000 for each failure to notify DHS of continued employment following a final nonconfirmation; (4) the Employer is subject to a rebuttable presumption that it has knowingly employed an unauthorized alien in violation of section 274A(a)(1)(A) if the Employer continues to employ any employee after receiving a final nonconfirmation; and (5) no person or entity participating in E-Verify is civilly or criminally liable under any law for any action taken in good faith on information provided through the confirmation system. DHS reserves the right to conduct Form I-9 compliance inspections during the course of E-Verify, as well as to conduct any other enforcement activity authorized by law.

7. The Employer agrees to initiate E-Verify verification procedures within 3 Employer business days after each employee has been hired (but after both sections 1 and 2 of the Form I-9 have been completed), and to complete as many (but only as many) steps of the E-Verify process as are necessary according to the E-Verify Manual. The Employer is prohibited from initiating verification procedures before the employee has been hired and the Form I-9 completed. If the automated system to be queried is temporarily unavailable, the 3-day time period is extended until it is again operational in order to accommodate the Employer's attempting, in good faith, to make inquiries during the period of unavailability. In all cases, the Employer must use the SSA verification procedures first, and use DHS verification procedures and photo screening tool only after the the SSA verification response has been given.

8. The Employer agrees not to use E-Verify procedures for pre-employment screening of job applicants, support for any unlawful employment practice, or any other use not authorized by this MOU. The Employer must use E-Verify for all new employees and will not verify only certain employees selectively. The Employer agrees not to use E-Verify procedures for re-verification, or for employees hired before the date this MOU is in effect. The Employer understands that if the Employer uses E-Verify procedures for any purpose other than as authorized by this MOU, the Employer may be subject to appropriate legal action and the immediate termination of its access to SSA and DHS information pursuant to this MOU.

9. The Employer agrees to follow appropriate procedures (see Article III.B. below) regarding tentative nonconfirmations, including notifying employees of the finding, providing written referral instructions to employees, allowing employees to contest the finding, and not taking adverse action against employees if they choose to contest the finding. Further, when employees contest a tentative nonconfirmation based upon a photo non-match, the Employer is required to take affirmative steps (see Article III.B. below) to contact DHS with information necessary to resolve the challenge.

10. The Employer agrees not to take any adverse action against an employee based upon the employee's employment eligibility status while SSA or DHS is processing the verification request unless the Employer obtains knowledge (as defined in 8 C.F.R. § 274a.1 (l)) that the employee is not work authorized. The Employer understands that an initial inability of the SSA or DHS automated verification to verify work authorization, a tentative nonconfirmation, or the finding of

Company ID Number: 69828

a photo non-match, does not mean, and should not be interpreted as, an indication that the employee is not work authorized. In any of the cases listed above, the employee must be provided the opportunity to contest the finding, and if he or she does so, may not be terminated or suffer any adverse employment consequences until and unless secondary verification by SSA or DHS has been completed and a final nonconfirmation has been issued. If the employee does not choose to contest a tentative nonconfirmation or a photo non-match, then the Employer can find the employee is not work authorized and take the appropriate action.

11. The Employer agrees to comply with section 274B of the INA by not discriminating unlawfully against any individual in hiring, firing, or recruitment or referral practices because of his or her national origin or, in the case of a protected individual as defined in section 274B(a)(3) of the INA, because of his or her citizenship status. The Employer understands that such illegal practices can include selective verification or use of E-Verify, discharging or refusing to hire eligible employees because they appear or sound "foreign", and premature termination of employees based upon tentative nonconfirmations, and that any violation of the unfair immigration-related employment practices provisions of the INA could subject the Employer to civil penalties pursuant to section 274B of the INA and the termination of its participation in E-Verify. If the Employer has any questions relating to the anti-discrimination provision, it should contact OSC at 1-800-255-7688 or 1-800-237-2515 (TDD).

12. The Employer agrees to record the case verification number on the employee's Form I-9 or to print the screen containing the case verification number and attach it to the employee's Form I-9.

13. The Employer agrees that it will use the information it receives from the SSA or DHS pursuant to E-Verify and this MOU only to confirm the employment eligibility of newly-hired employees after completion of the Form I-9. The Employer agrees that it will safeguard this information, and means of access to it (such as PINS and passwords) to ensure that it is not used for any other purpose and as necessary to protect its confidentiality, including ensuring that it is not disseminated to any person other than employees of the Employer who are authorized to perform the Employer's responsibilities under this MOU.

14. The Employer acknowledges that the information which it receives from SSA is governed by the Privacy Act (5 U.S.C. § 552a (i) (1) and (3)) and the Social Security Act (42 U.S.C. 1306(a)), and that any person who obtains this information under false pretenses or uses it for any purpose other than as provided for in this MOU may be subject to criminal penalties.

15. The Employer agrees to allow DHS and SSA, or their authorized agents or designees, to make periodic visits to the Employer for the purpose of reviewing E-Verify -related records, i.e., Forms I-9, SSA Transaction Records, and DHS verification records, which were created during the Employer's participation in the E-Verify Program. In addition, for the purpose of evaluating E-Verify, the Employer agrees to allow DHS and SSA or their authorized agents or designees, to interview it regarding its experience with E-Verify, to interview employees hired during E-Verify use concerning their experience with the pilot, and to make employment and E-Verify related records available to DHS and the SSA, or their designated agents or designees. Failure to comply with the terms of this paragraph may lead DHS to terminate the Employer's access to E-Verify.

Company ID Number: 69828

ARTICLE III

REFERRAL OF INDIVIDUALS TO THE SSA AND THE DEPARTMENT OF HOMELAND SECURITY

A. REFERRAL TO THE SSA

1. If the Employer receives a tentative nonconfirmation issued by SSA, the Employer must print the tentative nonconfirmation notice as directed by the automated system and provide it to the employee so that the employee may determine whether he or she will contest the tentative nonconfirmation.
2. The Employer will refer employees to SSA field offices only as directed by the automated system based on a tentative nonconfirmation, and only after the Employer records the case verification number, reviews the input to detect any transaction errors, and determines that the employee contests the tentative nonconfirmation. The Employer will transmit the Social Security Number to SSA for verification again if this review indicates a need to do so. The Employer will determine whether the employee contests the tentative nonconfirmation as soon as possible after the Employer receives it.
3. If the employee contests an SSA tentative nonconfirmation, the Employer will provide the employee with a referral letter and instruct the employee to visit an SSA office to resolve the discrepancy within 8 Federal Government work days. The Employer will make a second inquiry to the SSA database using E-Verify procedures on the date that is 10 Federal Government work days after the date of the referral in order to obtain confirmation, or final nonconfirmation, unless otherwise instructed by SSA or unless SSA determines that more than 10 days is necessary to resolve the tentative nonconfirmation.
4. The Employer agrees not to ask the employee to obtain a printout from the Social Security Number database (the Numident) or other written verification of the Social Security Number from the SSA.

B. REFERRAL TO THE DEPARTMENT OF HOMELAND SECURITY

1. If the Employer receives a tentative nonconfirmation issued by DHS, the Employer must print the tentative nonconfirmation notice as directed by the automated system and provide it to the employee so that the employee may determine whether he or she will contest the tentative nonconfirmation.
2. If the Employer finds a photo non-match for an alien who provides a document for which the automated system has transmitted a photo, the employer must print the photo non-match tentative nonconfirmation notice as directed by the automated system and provide it to the employee so that the employee may determine whether he or she will contest the finding.
3. The Employer agrees to refer individuals to DHS only when the employee chooses to contest a tentative nonconfirmation received from DHS automated verification process or when

Company ID Number: 69828

the Employer issues a tentative nonconfirmation based upon a photo non-match. The Employer will determine whether the employee contests the tentative nonconfirmation as soon as possible after the Employer receives it.

4. If the employee contests a tentative nonconfirmation issued by DHS, the Employer will provide the employee with a referral letter and instruct the employee to contact the Department through its toll-free hotline within 8 Federal Government work days.

5. If the employee contests a tentative nonconfirmation based upon a photo non-match, the Employer will provide the employee with a referral letter to DHS. DHS will electronically transmit the result of the referral to the Employer within 10 Federal Government work days of the referral unless it determines that more than 10 days is necessary.

6. The Employer agrees that if an employee contests a tentative nonconfirmation based upon a photo non-match, the Employer will send a copy of the employee's Form I-551 or Form I-766 to DHS for review by:

- Scanning and uploading the document, or
- Sending a photocopy of the document by an express mail account (furnished and paid for by DHS).

7. The Employer understands that if it cannot determine whether there is a photo match/non-match, the Employer is required to forward the employee's documentation to DHS by scanning and uploading, or by sending the document as described in the preceding paragraph, and resolving the case as specified by the Immigration Services Verifier at DHS who will determine the photo match or non-match.

ARTICLE IV

SERVICE PROVISIONS

The SSA and DHS will not charge the Employer for verification services performed under this MOU. The Employer is responsible for providing equipment needed to make inquiries. To access the E-Verify System, an Employer will need a personal computer with Internet access.

ARTICLE V

PARTIES

This MOU is effective upon the signature of all parties, and shall continue in effect for as long as the SSA and DHS conduct the E-Verify program unless modified in writing by the mutual consent of all parties, or terminated by any party upon 30 days prior written notice to the others. Any and all system enhancements to the E-Verify program by DHS or SSA, including but not limited to the E-Verify checking against additional data sources and instituting new verification procedures, will be covered under this MOU and will not cause the need for a supplemental MOU that outlines these changes. DHS agrees to train employers on all changes made to E-Verify through the use of mandatory refresher tutorials and updates to the E-Verify manual. Even

Company ID Number: 69828

without changes to E-Verify, the Department reserves the right to require employers to take mandatory refresher tutorials.

Termination by any party shall terminate the MOU as to all parties. The SSA or DHS may terminate this MOU without prior notice if deemed necessary because of the requirements of law or policy, or upon a determination by SSA or DHS that there has been a breach of system integrity or security by the Employer, or a failure on the part of the Employer to comply with established procedures or legal requirements. Some or all SSA and DHS responsibilities under this MOU may be performed by contractor(s), and SSA and DHS may adjust verification responsibilities between each other as they may determine.

Nothing in this MOU is intended, or should be construed, to create any right or benefit, substantive or procedural, enforceable at law by any third party against the United States, its agencies, officers, or employees, or against the Employer, its agents, officers, or employees.

Each party shall be solely responsible for defending any claim or action against it arising out of or related to E-Verify or this MOU, whether civil or criminal, and for any liability wherefrom, including (but not limited to) any dispute between the Employer and any other person or entity regarding the applicability of Section 403(d) of IIRIRA to any action taken or allegedly taken by the Employer.

The employer understands that the fact of its participation in E-Verify is not confidential information and may be disclosed as authorized or required by law and DHS or SSA policy, including but not limited to, Congressional oversight, E-Verify publicity and media inquiries, and responses to inquiries under the Freedom of Information Act (FOIA).

The foregoing constitutes the full agreement on this subject between the SSA, DHS, and the Employer.

The individuals whose signatures appear below represent that they are authorized to enter into this MOU on behalf of the Employer and DHS respectively.

To be accepted as a participant in E-Verify, you should only sign the Employer's Section of the signature page. If you have any questions, contact E-Verify Operations at 888-464-4218.

Employer Brown and Caldwell

Margaret B Newcomer

Name (Please type or print)

Title

Electronically Signed

11/27/2007

Signature

Date

Department of Homeland Security - Verification Division

Company ID Number: 69828

USCIS Verification Division

Name (Please type or print)

Title

Electronically Signed

11/27/2007

Signature

Date

Company ID Number: 69828

INFORMATION REQUIRED FOR THE E-VERIFY PROGRAM

Information relating to your Company:

Company Name: Brown and CaldwellCompany Facility Address: 201 N. Civic Drive
Walnut Creek, CA 94596Company Alternate Address: _____

_____County or Parish: CONTRA COSTAEmployer Identification Number: 941446346North American Industry
Classification Systems Code: 541

Parent Company: _____

Number of Employees: 1,000 to 2,499 Number of Sites Verified for: 44

Are you verifying for more than 1 site? If yes, please provide the number of sites verified for in each State.

• SOUTH CAROLINA	1 site(s)
• OREGON	1 site(s)
• NEVADA	2 site(s)
• MONTANA	1 site(s)
• FLORIDA	4 site(s)
• LOUISIANA	1 site(s)
• IDAHO	1 site(s)
• OHIO	3 site(s)
• TEXAS	4 site(s)
• MASSACHUSETTS	2 site(s)
• WISCONSIN	1 site(s)
• NEW YORK	1 site(s)
• MINNESOTA	1 site(s)
• NEW JERSEY	1 site(s)
• HAWAII	2 site(s)
• TENNESSEE	1 site(s)
• ARIZONA	2 site(s)
• COLORADO	1 site(s)
• CALIFORNIA	8 site(s)

Company ID Number: 69828

- | | | | |
|---|----------------|---|---------|
| • | GEORGIA | 1 | site(s) |
| • | VIRGINIA | 1 | site(s) |
| • | NORTH CAROLINA | 2 | site(s) |
| • | UTAH | 1 | site(s) |
| • | WASHINGTON | 1 | site(s) |

Information relating to the Program Administrator(s) for your Company on policy questions or operational problems:

Name:	Margaret B Newcomer	Fax Number:	(925) 210 - 2449
Telephone Number:	(925) 210 - 2219		
E-mail Address:	mnewcomer@brwncaid.com		
Name:	Judi P Chang	Fax Number:	(925) 210 - 2449
Telephone Number:	(925) 210 - 2387		
E-mail Address:	jpchang@brwncaid.com		

ATTACHMENT 4
CITY OF HUNTSVILLE STANDARDS AND DESIGN GUIDES

1. City of Huntsville Standard Specifications for Construction of Public Improvements. Contract Projects, 1991.
 2. City of Huntsville Engineering Standards, 1991.
 3. City of Huntsville Design and Acceptance Manual for Force Mains and Pump Stations, 2011.
 4. City of Huntsville Design and Acceptance Manual for Sanitary Sewers, 2011.
 5. Alabama Department of Transportation Standard Specifications for Highway Construction, Current Edition.
 6. City of Huntsville Subdivision Regulations, 1991.
-

ATTACHMENT 5
DESIGN REVIEWS

0% COMPLETE – PRE-DESIGN CONFERENCE

The ENGINEER shall meet with the OWNER at a 0% complete - Pre-Design Conference. The OWNER's representative (Project Engineer) will be introduced.

CONFERENCE FORMAT

The pre-design meeting will be initiated by the OWNER. The purpose of the conference will be to give the ENGINEER an opportunity to discuss the design of the PROJECT, to visit the PROJECT site, to receive copies of OWNER -furnished documents, if applicable, and to meet the OWNER'S Project Engineer and other personnel working on the PROJECT.

ATTENDEES: (Required)

- | | |
|---|---|
| <ul style="list-style-type: none">• ENGINEER• ALDOT (as appropriate for the type of project)• Real Estate | <ul style="list-style-type: none">• Landscape Management• Utilities• Traffic Engineering• Planning |
|---|---|

DISCUSSION TOPICS :

- | | |
|---|--|
| <ul style="list-style-type: none">• Authority of OWNERS representative (Written submittal made to the ENGINEER)• Scope of Work• Time Requirements• Budget Restraints• Testing Requirements• Permit Responsibilities• Design criteria• LC&E requirements• Plan Requirements• Special Conditions• Utility Project Notification and a list of all utilities that need to be contacted. | <ul style="list-style-type: none">• Tree Ordinance |
|---|--|

REQUIRED SUBMITTALS TO THE PROJECT ENGINEER

1. A Certificate of Insurance for the ENGINEER and the ENGINEER's subconsultants shall be submitted to the OWNER's PROJECT ENGINEER per Section 10.6.
 2. Prior to the Pre-Design Conference, a completed **draft** design criteria document shall be prepared to the best of the ENGINEER'S ability and in conformance with his fee proposal and will serve as the basis of a discussion topic during the Pre-Design Conference. A **final** version of the design criteria based upon discussion during the meeting shall be prepared by the ENGINEER and distributed with the meeting minutes. A copy of a design criteria format may be found on the City of Huntsville web site at <http://www.huntsvilleal.gov/engineering/index.php>.
 3. Within seven (7) calendar days of the 0% Complete - Pre-Design Conference, the ENGINEER shall submit to the OWNER's Project Engineer two color copies and an electronic copy of a schedule in Microsoft Projects format showing the critical path and indicating the time frame for the required milestone events and submittals outlined in this document. The schedule shall support a PROJECT completion date in accordance with the Period Of Services in Article 5. When approved, a baseline of the schedule shall be saved from which variances in the schedule can be measured and evaluated.
-

ATTACHMENT 5
DESIGN REVIEWS

30% COMPLETE – CONCEPTUAL DESIGN

This design review is to show the OWNER how the functional and technical requirements will be met, to indicate the ENGINEER's approach to the solution of technical problems, to show compliance with design criteria or to justify noncompliance and to provide an estimate of probable cost. A field review shall be conducted at this juncture with the OWNER's staff and the ENGINEER to review the proposed field alignment of the PROJECT.

CONFERENCE FORMAT

ATTENDEES: (Required)

- Real Estate
 - Landscape Management
 - Utilities
 - Traffic Engineering
-
- Planning
 - City of Huntsville Construction Project Manager
 - City of Huntsville Inspector
 - City of Huntsville Environmental Representative

DISCUSSION TOPICS:

- ENGINEER presents recommended design/solutions along with other options and alternatives considered.
- ENGINEER presents updates on progress of permitting requirements
- ENGINEER presents progress on coordination with other project participants such as the State of Alabama, sub consultants, etc.
- ENGINEER presents budgetary constraints

REQUIRED SUBMITTALS TO THE PROJECT ENGINEER

1. A preliminary list of all permits to be obtained with associated fees.
2. An updated schedule in Microsoft Projects format showing the critical path shall be submitted.
3. Two color copies and an electronic copy of an updated schedule in Microsoft Projects format showing the critical path shall be submitted.

ATTACHMENT 5 **DESIGN REVIEWS**

60% COMPLETE – PRELIMINARY DESIGN CRITERIA

The review of the PROJECT at this point is primarily to insure that funding limitations are not being exceeded and to insure that the contract documents, design analysis and cost estimates are proceeding in a timely manner, and that the design criteria and previous review comments are being correctly interpreted. An additional review may be required by the OWNER to review changes proposed from previous submittals.

CONFERENCE FORMAT

ATTENDEES: (Required)

- Real Estate
 - Landscape Management
 - Utilities
 - Traffic Engineering
-
- Planning
 - City of Huntsville Construction Project Manager
 - City of Huntsville Inspector
 - City of Huntsville Environmental Representative

DISCUSSION TOPICS:

- Additional land acquisition needs, as required.
- Utility Project Notification and a list of all utilities that need to be contacted.
- Technical specifications for special construction items not covered under standard specifications or deviations from standard specifications.
- Update on progress of permitting requirements.
- Erosion control plan requirements, if required by the OWNER.
- Budget constraints.
- Progress on coordination with other project participants such as the City of Huntsville Real Estate Officers (Engineering Department), State of Alabama, sub consultants, etc.

REQUIRED SUBMITTALS TO THE PROJECT ENGINEER

1. One full size print copy and one ½ size print copy of all drawings that have incorporated previous comments shall be submitted. Plan/Profile drawings shall be 75% complete. Right-of way drawings shall be 100% complete at this submittal (reference Real Estate Division Plan Requirements Section entitled DRAWINGS, included at the end of this proposal)
2. An update to the schedule in Microsoft Projects format showing the critical path shall be submitted.
3. Unless determined to be inapplicable by the OWNER, Hydraulic reports 75% complete, shall be submitted.
4. Three (3) copies of preliminary plans for utilities shall be submitted.
5. Legal descriptions for takings shall be submitted. The information shall be 100% complete. (reference Real Estate Division Plan Requirements Section entitled DESCRIPTIONS, included at the end of this proposal)
6. Traffic Control Plan, if required. Plan shall be 60% complete at this submittal.
7. Detailed preliminary construction cost estimate shall be submitted.
8. Results of geotechnical investigations shall be submitted.
9. A list of comments made at the 30% review and a summary of each resolution.
10. Two color copies and an electronic copy of an update to the schedule in Microsoft Projects format showing the critical path shall be submitted.

ATTACHMENT 5
DESIGN REVIEWS

90% COMPLETE – FINAL REVIEW

The review of this submittal is to ensure that the design is in accordance with directions provided the ENGINEER during the design process.

CONFERENCE FORMAT

DISCUSSION TOPICS

Discussion topics will be handled open forum.

REQUIRED SUBMITTALS TO THE PROJECT ENGINEER

1. One full size print copy and one ½ size print copy of all drawings that have incorporated previous comments shall be submitted. Submittals include Plan/Profile drawings, Construction Details, Detailed cross-sections with cut and fill quantities and storm and sanitary sewer crossings, Erosion control plan, if required, Technical specifications, Right-of way drawings, Traffic Control Plan, Plans for Utilities, Signed Acceptance of Utility Project Notification Form by all affected parties, Design Calculations, and a final cost estimate. All submittals shall be 100% complete.
2. Any changes to Land Acquisition needs shall be identified and Legal descriptions for the changes shall be submitted.
3. A list of comments made at the 60% review and a summary of each resolution.
4. Calculations showing how quantities were determined for each bid item and how the item is to be measured in the field and paid. Three bound copies of corrected quantity calculations to match bid quantities. The following shall be required for each item:
 - Item Number
 - Item Description with standard specification used
 - Detailed calculation to include all measurements, conversion factors, and “standard” weights used
 - Final “calculated” amount and any “increased” amounts
 - Notes to include any deviation from referenced standard specifications

ATTACHMENT 5
DESIGN REVIEWS

100% COMPLETE – READY TO ADVERTISE

After the 90% review, the ENGINEER shall revise the construction documents by incorporating any comments generated during the previous design reviews. The ENGINEER shall prepare final hard copy contract specifications, prepare a bid form, and update the cost estimate as necessary.

CONFERENCE FORMAT

This is a submittal only. **Return this sheet with submittal**

<u>YES</u>	<u>NO</u>	<u>REQUIRED SUBMITTALS TO THE PROJECT ENGINEER</u>
<input type="checkbox"/>	<input type="checkbox"/>	1. Two (2) sets of complete construction drawing prints sized 24" x 36" sealed and marked "ISSUED FOR CONSTRUCTION". Drawings information shall be referenced to Alabama State Plane Coordinate system, NAD1983 Alabama East Zone as described in the <u>Code of Alabama</u> (1975), Section 35-2-1. Surveys shall be tied to a minimum of two accepted GPS monuments or one GPS tie point plus an astronomic observation to determine grid north or GPS Survey.
<input type="checkbox"/>	<input type="checkbox"/>	2. One (1) Micro station digital and One (1) digital file in either .tiff or .pdf format of construction drawings (must be signed and sealed) – sized 11" x 17".
<input type="checkbox"/>	<input type="checkbox"/>	3. Two (2) sets of right-of-way drawing prints sized 24" x 36" sealed and marked "ISSUED FOR CONSTRUCTION". Drawings information shall be referenced to Alabama State Plane Coordinate system. NAD1983 Alabama East Zone
<input type="checkbox"/>	<input type="checkbox"/>	4. One (1) Micro station digital file of right-of-way drawings.
<input type="checkbox"/>	<input type="checkbox"/>	5. Two (2) print sets of 8-1/2" x 11" legal descriptions for right-of-way (REVISED SETS ONLY)
<input type="checkbox"/>	<input type="checkbox"/>	6. One (1) digital text file of legal descriptions for right-of-way (REVISED FILE ONLY)
<input type="checkbox"/>	<input type="checkbox"/>	7. One (1) print copy of Final Construction Cost Estimate.
<input type="checkbox"/>	<input type="checkbox"/>	8. One (1) digital spread sheet file of Final Construction Cost Estimate.
<input type="checkbox"/>	<input type="checkbox"/>	9. Three (3) printed and bound copies of corrected quantity calculations to match Final Bid Quantities.
<input type="checkbox"/>	<input type="checkbox"/>	10. One (1) digital spread sheet file (Excel 2003 format) of Final Bid Quantities.
<input type="checkbox"/>	<input type="checkbox"/>	11. Two (2) print sets of contract specifications.
<input type="checkbox"/>	<input type="checkbox"/>	12. One (1) digital text file of contract specifications.
<input type="checkbox"/>	<input type="checkbox"/>	13. One (1) complete set of signed and sealed calculations.
<input type="checkbox"/>	<input type="checkbox"/>	14. One (1) complete set of all approved permits including Location, Character, and Extent, COE, ADEM, etc.
<input type="checkbox"/>	<input type="checkbox"/>	15. One (1) complete set of all field notes.
<input type="checkbox"/>	<input type="checkbox"/>	16. One (1) copy of digital aerial photography obtained for this PROJECT in (.tif) format, as necessary.
<input type="checkbox"/>	<input type="checkbox"/>	17. Utility Project Notification forms and a list of all utilities that need to be contacted.

Engineer

ATTACHMENT 6 - ENGINEERS PERSONNEL FEE SCHEDULE

See Page 11 of 13 in Attachment 1 for Engineer's Personnel Fee Schedule

ATTACHMENT 7 - PROGRESS REPORT
(Article 8)

PROGRESS REPORT NO. _____ FOR MONTH AND YEAR _____

PROJECT _____ PROJECT NO. _____

DATE _____ CITY'S PROJECT ENGINEER _____

CONSULTANT _____ CONSULTANT'S PROJ. MAN. _____

CURRENT MONTH % COMPLETE: _____ PREV. MONTH % COMPLETE: _____

ATTACH A "SHOULD HAVE STARTED TASKS REPORT" AND A "SLIPPING TASKS REPORT" FROM MICROSOFT PROJECTS THAT LISTS ALL ACTIVITY THAT IS BEHIND SCHEDULE.

ATTACH A "TASKS STARTING SOON" REPORT FROM MICROSOFT PROJECTS WITH A DATE RANGE OF THIRTY (30) DAYS AFTER THE DATE OF THIS PROGRESS REPORT.

STATE WHAT ACTION IS BEING TAKEN TO BRING PROJECT BACK TO SCHEDULE:

MILESTONE SUBMITTALS	SCHEDULED DATE	ACTUAL DATE
30%	_____	_____
60%	_____	_____
90%	_____	_____
100%	_____	_____
"FINAL" INVOICE SUBMITTED	_____	_____
SUBCONSULTANTS PAID IN FULL	_____	_____
CONTRACTED COMPLETION DATE: December 31, 2013	_____	_____

(These scheduled dates shall be agreed upon at the beginning of the project (Attachment 5) with the Project Engineer and noted monthly on each progress report. The scheduled contract completion date shall not be changed except by contract change order. Changes to the scheduled milestone submittal dates shall be accompanied by a new project schedule approved by the OWNER'S Project Engineer.)

UPDATED SCHEDULE ATTACHED? _____ YES _____ NO

*If yes, send an electronic copy to the Project engineer

COMMENTS:

This progress report (4 copies) shall be submitted monthly. Scheduled completion dates will not be extended without a contract modification.

CERTIFICATION: I certify that the stated information is true and accurate to the best of my knowledge.

CONSULTANT _____	DATE _____	CITY PROJECT ENGINEER _____	DATE _____
------------------	------------	-----------------------------	------------

ATTACHMENT 8 - SUB CONSULTANTS ENGAGED BY THE ENGINEER
(Article 9.2)

CONSULTANT NAME AND ADDRESS	DESCRIPTION OF SERVICES	FEE
	N/A	
	SUB-TOTAL	
	5% Administrative Fee	
	TOTAL	

ATTACHMENT 9 - CONTRACT DOCUMENT REQUIREMENTS LIST

REQUIREMENT	SUBMIT TO	SUBMITTAL REQUIREMENT DATE	NUMBER OF COPIES	REFERENCE SECTION OF CONTRACT AND COMMENTS
Deviations from OWNER's standards.	OWNER	Prior to incorporating deviations.	2	Article 2.5
Products or materials specified by the ENGINEER that are available from only one source.	OWNER	Prior to 100% submittal.	2	Article 2.2
Approval of ENGINEER's Request for Payment.	OWNER	Within ten (10) days of receipt of the request from the ENGINEER.	N/A	Article 3.4
Approval of ENGINEER submittals	OWNER	So as to cause no delay to the ENGINEER or the PROJECT.	N/A	Article 3.8
Change order changes that reduce construction requirements.	OWNER	Prior to authorizing a change.	N/A	Article 3.11
Any information pertaining to any claim.	OWNER	Immediately	2	Article 3.12
Information pertinent to the PROJECT, all criteria and full information as to OWNER's requirements, copies of all design and construction standards.	ENGINEER	So as to not delay the services of the ENGINEER.	2	Article 5.1, 5.2
Notification of delays.	ENGINEER; OWNER	Promptly	4	Article 6.1
ENGINEER's monthly invoices.	OWNER	Monthly	4	Article 8.1.1
Consultant progress report.	OWNER	Monthly	4	Article 8.1.1
Records, data, parameters, design calculations and other information.	OWNER	Cancellation of contract.	2	Article 9.7
Documentation, records of reimbursable expenses, record copies of all written communications, and any memoranda of verbal communications related to the PROJECT.	OWNER	Upon notice from the OWNER.	2	Article 9.4
Termination notification.	OWNER or ENGINEER	7 days prior to termination.	2	Article 9.10 & 9.11
Certificate of Insurance for ENGINEER.	OWNER	At 0% design conference	1	Article 10.2(B), 10.6, and Attachment 5.

Insurance cancellation, suspension, or reduction in coverage or limits.	OWNER	30 days prior to effective date except for cancellation which is 10 days notification.	1	Article 10.4(A)
Certificate of insurance for sub consultants/subcontractors.	OWNER	At 0% design conference.	1	Article 10.7
A schedule in Microsoft Projects format showing the critical path.	Project Engineer	Within 7 calendar days of Pre-design conference, 30% complete design review. 60% design review. Attachment 7	1 hard; 1 digital	Attachment 5
Drawings.	Project Engineer	30% complete design review, 60% design review, 90% review, and 100% complete.	3	Attachment 5
Cost estimate.	Project Engineer	30% complete design review, 60% review, 90% review, and 100% complete.	3	Attachment 5
Hydraulic reports.	Project Engineer	60% design review.	2	Attachment 5
Preliminary plans for utilities.	Project Engineer	60% design review.	3	Attachment 5
Real Estate Deliverables	Project Engineer	60% design review, 90% review, 100% complete.	Reference Real Estate Division Plan Requirements	Attachment 5, 15 Real Estate Plan Requirements at end of this proposal document
Traffic Control plan.	Project Engineer	60% design review.	N/A	Attachment 5
Results of geotechnical investigations.	Project Engineer	30% design review.	2	Attachment 5
Technical specifications.	Project Engineer	90% review, 100% complete.	N/A	Attachment 5
Relocation of Utilities	Project Engineer	0% review – list of all utilities that need to be contacted 60% review – from all affected parties 90% review – Signed Acceptance Utility Project Notification Form	2	Attachment 5, 11
Design Calculations	Project Engineer	90% review, 100% complete	1	Attachment 5
Digital copy of drawings.	Project Engineer	100% complete – 1 in .dgn format; 1 in .tiff or .pdf format	2	Attachment 5
Digital text files.	Project Engineer	100% complete.	1	Attachment 5
Bid Quantities.	Project Engineer	100% complete. Digital in Excel 2003 format and hard copy	3	Attachment 5
Permits and Permit Applications	Project Engineer	100% complete.	1	Attachment 5
Field notes.	Project Engineer	100% complete.	1	Attachment 5
Digital aerial photography.	Project Engineer	100% complete.	1	Attachment 5

Progress Report (Art. 8)	Project Engineer	30% complete design review, 60% design review, 90% design review, 100% completion stage.	4 hard; 1 digital monthly	Attachment 5
-----------------------------	---------------------	---	------------------------------	--------------

ATTACHMENT 10 - REQUIREMENTS FOR DOCUMENT SUBMITTALS

All drawings shall be sized 24" x 36", unless otherwise approved by the OWNERS Project Engineer.

Title blocks shall as a minimum, contain the name of the project, date, city project number, and ENGINEER's name. The title block of drawings shall contain a space for the names of the preparer and the reviewer and/or checker. These blocks shall be signed on each submittal (See Attachment "12" for sample standard drawing format). Drawings shall contain alphanumeric revision designations. Drawings issued for review shall be issued with alpha revision designation and the revision letter shall be changed for each submittal containing drawing changes. Drawings issued for construction shall be issued with numeric designation at revision level "0" and described as "Issued for Construction" in the revision description block. Subsequent drawing changes require the revision level to be raised using successively higher numbers and the changes to be marked by circling and briefly described in a revision block.

Unless otherwise specified by the Owners Project Engineer, all drawings for review submittals shall be full or half-size copies. All documents shall be clearly marked in a revision block indicating the applicable submittal milestone, i.e. 30%, 60%, 90%, etc.

Submittals required by the State of Alabama for their review, bidding, etc., shall be of the size, form and numbers of copies as the state may require even though such submittals may differ from the submittals set forth as being required elsewhere in this Agreement.

All drawings shall be prepared in Micro station .DGN format, unless otherwise approved by the OWNERS Project Engineer. Transmittal letters shall consist of a list of files being submitted, a description of the data in each file, and a level/layer schematic of each design file. DGN design files shall have working units as follows: master units in feet, no sub-units, and 1,000 positional units. All data submitted shall use NAD 1983 Alabama East Zone horizontal datum and NAVD 88 vertical datum coordinates.

Digital files shall be submitted by 4-3/4" CD ROM, DVD, 3 and 1/2 inch floppy disk, or to the City of Huntsville F.T.P. site.

All print copies shall be first generation copies.

All text documents shall be prepared in Microsoft Word 2007 format.

All spreadsheets shall be in Microsoft Excel 2007 format.

A schedule showing the critical paths shall be in Microsoft Projects format, unless otherwise approved by the OWNERS Project Engineer.

Aerial photography files shall be in Intergraph (.COT) or (.tiff) format.

All mapping shall meet National Map Accuracy Standards unless otherwise noted. If National Map Accuracy Standards are not met, the accuracy of the map shall be identified to the Owners Project Engineer and on the maps derived from the aerial survey. National Map Accuracy Standards are shown below. This and other map standards are shown in Department of the Army, US Army Corps of Engineers standard, "EM 1110-1-1000, Engineering and Design - Photogrammetric Mapping". <http://140.194.76.129/publications/eng-manuals/em1110-1-1000/toc.htm>

ATTACHMENT 11 – UTILITY PROJECT NOTIFICATION FORM

NAME: _____
(Utility Name)

PROJECT NAME: _____ PROJECT NUMBER: _____

CONSULTING ENGINEER: _____
(Name)

ENGINEERING REPRESENTATIVE _____ PHONE: _____

I have reviewed design drawings or other information as available, and:

DO _____

DO NOT _____

have facilities that will require relocation. If relocation is required, a construction duration of _____ calendar days from the Notice to Proceed, is anticipated to be required for relocation.

LIST NAME(S) OF OTHER UTILITY(S) that share poles or facilities that have to be relocated prior to YOU starting your work:

NAME OF UTILITY: _____

NAME OF UTILITY: _____

NAME OF UTILITY: _____

OTHER: _____

COMMENTS: _____

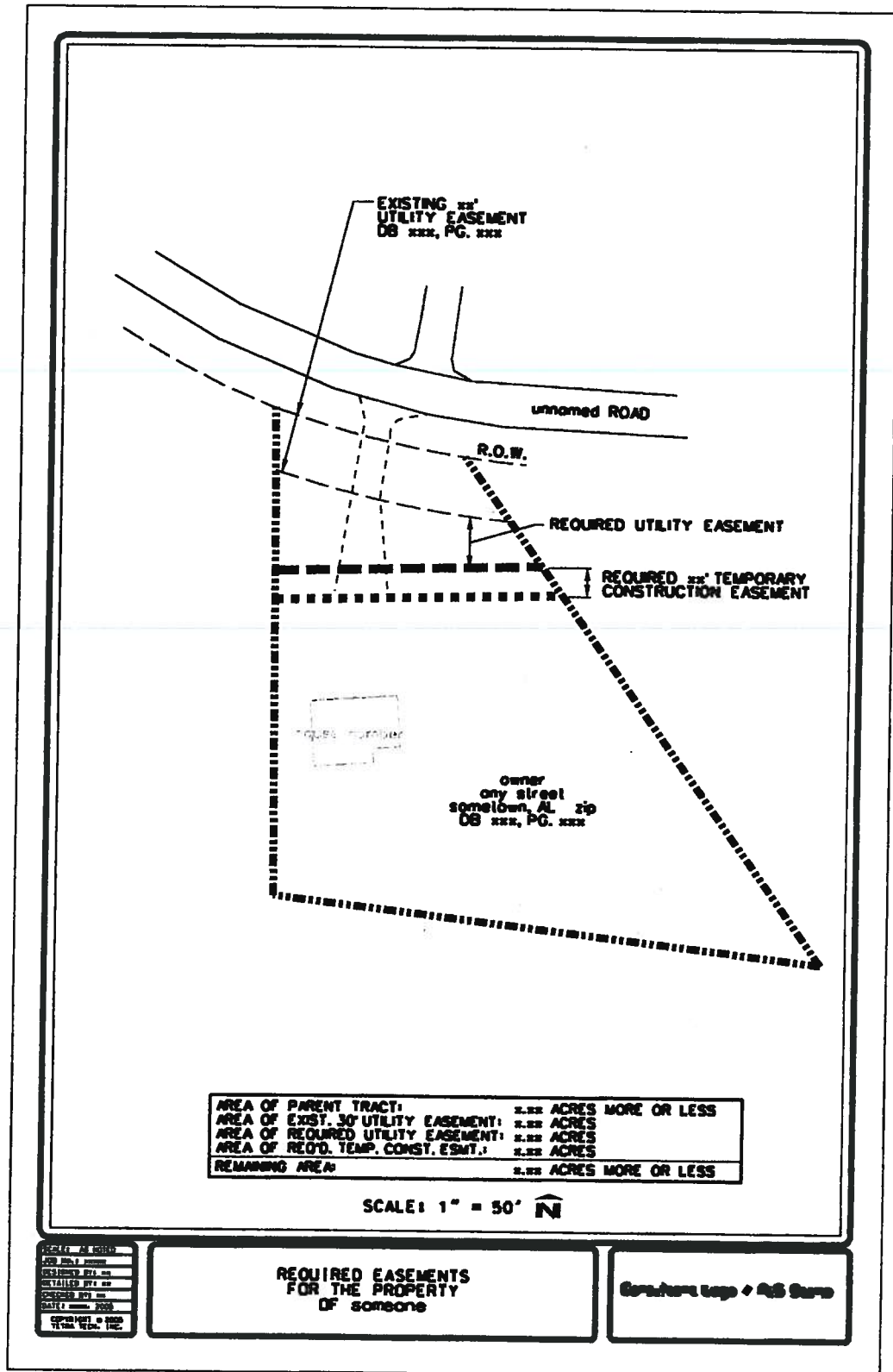
BY: _____
AUTHORIZED REPRESENTATIVE

FIELD CONTACT PERSON: _____ PHONE: _____
OFFICE CONTACT PERSON: _____ PHONE: _____

DATE: _____

<p>CONSTRUCTION PLANS FOR PROJECT NAME PROJECT INFORMATION</p> <p>FOR THE</p> <p>CITY OF HUNTSVILLE HUNTSVILLE, ALABAMA (PROJECT NO. XXXXXXXX)</p> <p>SAMPLE STANDARD DRAWING FORMAT</p>										<p>HUNTSVILLE The Star of Alabama</p>									
<p>INDEX TO DRAWINGS</p>										<p>INDEX TO DRAWINGS SHALL BE PLACED ON COVER SHEET IF POSSIBLE OTHERWISE IT SHALL BE THE SECOND SHEET IN THE SET.</p>									
<p>PROJECT NAME AND INFORMATION</p>										<p>TITLE SHEET</p>									
<p>CITY OF HUNTSVILLE HUNTSVILLE, ALABAMA</p>										<p>PROJECT NO. XXXXXXXX</p>									
<p>DATE SUBMITTED FOR REVIEW</p>										<p>DATE REVIEWED</p>									
<p>100% COMPLETE</p>										<p>100% COMPLETE</p>									

ATTACHMENT 13
SAMPLE



ATTACHMENT 14

United States National Map Accuracy Standards

With a view to the utmost economy and expedition in producing maps which fulfill not only the broad needs for standard or principal maps, but also the reasonable particular needs of individual agencies, standards of accuracy for published maps are defined as follows:

1. **Horizontal accuracy.** *For maps on publication scales larger than 1:20,000, not more than 10 percent of the points tested shall be in error by more than 1/30 inch, measured on the publication scale; for maps on publication scales of 1:20,000 or smaller, 1/50 inch. These limits of accuracy shall apply in all cases to positions of well-defined points only. Well-defined points are those that are easily visible or recoverable on the ground, such as the following: monuments or markers, such as bench marks, property boundary monuments; intersections of roads, railroads, etc.; corners of large buildings or structures (or center points of small buildings); etc. In general what is well defined will be determined by what is plottable on the scale of the map within 1/100 inch. Thus while the intersection of two road or property lines meeting at right angles would come within a sensible interpretation, identification of the intersection of such lines meeting at an acute angle would obviously not be practicable within 1/100 inch. Similarly, features not identifiable upon the ground within close limits are not to be considered as test points within the limits quoted, even though their positions may be scaled closely upon the map. In this class would come timber lines, soil boundaries, etc.*
2. **Vertical accuracy,** *as applied to contour maps on all publication scales, shall be such that not more than 10 percent of the elevations tested shall be in error more than one-half the contour interval. In checking elevations taken from the map, the apparent vertical error may be decreased by assuming a horizontal displacement within the permissible horizontal error for a map of that scale.*
3. **The accuracy of any map may be tested** *by comparing the positions of points whose locations or elevations are shown upon it with corresponding positions as determined by surveys of a higher accuracy. Tests shall be made by the producing agency, which shall also determine which of its maps are to be tested, and the extent of the testing.*
4. **Published maps meeting these accuracy requirements** *shall note this fact on their legends, as follows: "This map complies with National Map accuracy Standards."*
5. **Published maps whose errors exceed those aforesaid** *shall omit from their legends all mention of standard accuracy.*
6. **When a published map is a considerable enlargement** *of a map drawing (manuscript) or of a published map, that fact shall be stated in the legend. For example, "This map is an enlargement of a 1:20,000-scale map drawing," or "This map is an enlargement of a 1:24,000-scale published map."*
7. **To facilitate ready interchange and use of basic information for map construction** *among all Federal mapmaking agencies, manuscript maps and published maps, wherever economically feasible and consistent with the uses to which the map is to be put, shall conform to latitude and longitude boundaries, being 15 minutes of latitude and longitude, or 7.5 minutes, or 3-3/4 minutes in size.*

U.S. BUREAU OF THE BUDGET

ATTACHMENT 15

ENGINEERING DEPARTMENT - REAL ESTATE DIVISION PLAN REQUIREMENTS

DRAWINGS:

Individual Parcels

- Each individual parcel 8 ½" x 14" (dgn or dxf format)
- Show Calculations
 - Before
 - After
 - Taking
- All Parcels shall be closed shapes (polygons).
- Show Existing and Proposed Right-of-Way on each individual parcel map.
- Property Ownership

Overall Project Land Acquisition Maps

- Total project drawing in dgn or dxf format
- Indicate the following:
 - Stationing on Centerline
 - Existing Right-of-Way
 - Proposed Right-of-Way
 - Existing Easements
 - Proposed Easements
 - Existing Pavement
 - Proposed Pavement/Sidewalks/Structures
 - Existing Structures
 - Property Ownership

Color Standards

(SAMPLE)

<u>Description</u>	<u>Color</u>	<u>Line Style</u>	<u>Type</u>
Existing ROW	Red	Medium Dashed	
Proposed ROW	Red	Solid	Closed Polygon
Existing Easements	Orange	Medium Dashed	
Proposed Easements	Orange	Solid	Closed Polygon
TCE	Pink	Solid	Closed Polygon

DESCRIPTIONS:

- Microsoft Word on 3.5" Diskette or CD
- Each Description shall be complete and independent (separate file).
- Hard Copies signed and stamped by PLS.

GENERAL:

- P.K. Nails or other permanent stationing markings shall be required.
- Re-staking of right-of-way or easements may be required (See Article 4).
- All survey plats to be on Alabama State Plane Datum. Strip Maps shall indicate at least 2 monuments in place with Alabama State Plane Coordinate values shown on each.
- Parcel plats and legal descriptions shall indicate the Alabama State Plane Coordinate NAD83 Alabama East Zone Value of the point of beginning.

ATTACHMENT 16 - GIS BASE MAP

DESIGN LEVEL	CONTENTS	LINE CODE	COLOR	WEIGHT	TEXT SIZE	FONT	CELL NAME
1	State Plane Coordinate Grid	0	0	0	20	0	
2	Benchmarks	0	0	0			
3	Private Street Text	0	105	0	20	0	
3	Street Text	0	3	0	20 (or 18)	0	
4	Street R/W	7	0	0			
5	Street Centerline	7	0	0			
6	Street Pavement	0	3	0			
6	Proposed Street Pavement	3	16	0			
6	Private Streets	0	105	0			
6	Proposed Private Road	3	105	0			
7	Parking Lots	1	3	1			
7	Private Lots used as Roads	1	105	1			
8	Secondary Roads--Private	2	105	0			
8	Secondary Roads	2	3	0			
8	Trails	3	3	0			
9	Secondary Roads/Trails Text	0	3	0	20	0	
10	Sidewalks	5	3	0			
11	Bridges/Culverts/Paved Ditches	0	0	0			
12	Hydrology - Major	6	1	0			
12	Hydrology - Minor, Ditches	7	1	0			
13	Hydrology - Text	0	1	0	25	23	
14	Tailings & Quarries, Athletic Fields/Text, misc. areas	0	1	0			
15	Greenways	3	48	0			
16	Speed Tables	0	3	0			
17	Railroad Tracks (Patterned)	0	2	0			TCALM RR
18	Railroad Text	0	2	0	25	0	
19	Railroad R/W	2	2	0			
20	Utility Poles (Cell)	0	5	0			P POLE
21	Utility Easements	3	5	0			
22	Utility Text	0	5	1			
23	Geographic Names	0	3	1			
24	Building Structures	0	0	0			
24	Pools and Text	0	1	0	10	1	
24	Future Site of Structures	2	0	0			STRUCT STRCEX
24	Existing Structures (exact location and shape unknown)	2	0	0			
25	Property Lines/ refuge bdy.	6	6	1	30	1	
26	Cadastral Polygons	6	6	0			
27	Ownership Text	0	6	1			
28	Cemeteries/Text	4	6	0	10	1	
29	Lot Numbers				25	0	
30	Block Numbers				30	0	
31	Addition Names	0	0	0	35	0	
32	Open						
33	Lot Ticks						
34	Lot Lines/Property Lines	6	6	0			
35	Trees/Hedge Rows	0	6	0	AS=1		TREES
36	GPS Monuments	0	5	0	18	23	CONTRL
37	2' Topo Contour						

38	5' Topo Contour	0	7	0			
39	25' Major Topo Contour	0	7	0			
40	X Spot Elevation	0	7	0			
41	FEMA Monuments/Labels	0	3/0	0	18	1	FEMA
42	Quarter Sections						
43	Section Lines	0	5	0			
44	Features	0	2	0			
44	Cell Towers	0	12	0	AS=1		CELTWR
45	Fences (Pattern)	0	8	0	AS=1		FENCE
46	Format/Legend	0	0	0			Limleg Madleg
47	Mass Points	0	7	2			
48	Break Lines	0	7	2			
49	Open						
50	Billboards	0	37	1			BBOARD
51	Sanitary Sewer	0		3			
52	Sanitary Sewer Text						
53	Storm Water Features	0		3			
54	Storm Water Text						
55	Open						
56	Property Address	0	1	0			
57	Text Tag for Buildings	0	1	0	10-20	1	
58	One Way Arrows	1	3	1			
59	Open						
60	Open						
61	Open						
62	Monuments for Setup (point cell)						
63	Open						